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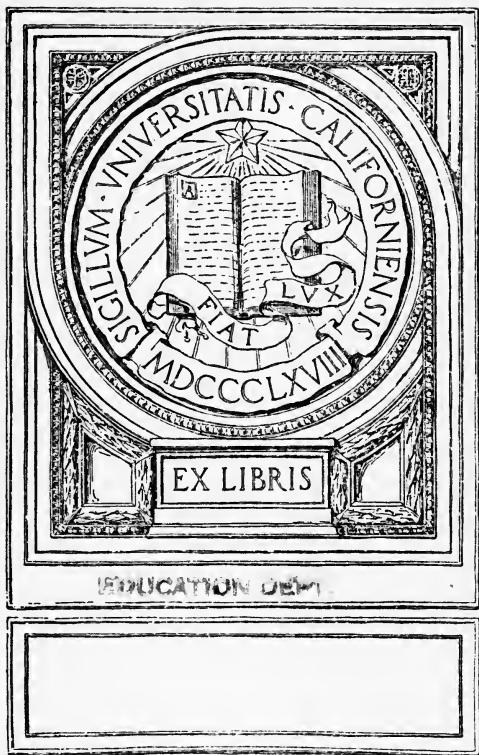
REAL STORIES FROM OUR HISTORY



BY
JOHN T. FARIS

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PRISCILLA AND JOHN ALDEN

REAL STORIES FROM
OUR HISTORY

ROMANCE AND ADVENTURE IN
AUTHENTIC RECORDS OF
THE DEVELOPMENT OF
THE UNITED STATES

BY

JOHN T. FARIS

AUTHOR OF "WINNING THE OREGON COUNTRY"
"THE ALASKAN PATHFINDER," ETC.

GINN AND COMPANY

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PREFACE

In its report to the National Education Association, the Committee of Eight on the Study of History in the Elementary Schools, appointed by the American Historical Society, said, "Our history teaching in the past has failed largely because it has not been picturesque enough."

The committee also outlined a method by which the lacking element could be supplied. Among other things this was said, "Only typical events should receive emphasis, and these should be so grasped and so presented as to make definite impression."

Emphasis was laid on "the giving of a sense of reality and appealing to the feelings" by "reading source material like letters, journals, diaries and other personal accounts from the pens of men and women who took part in the events they narrate or witnessed the scenes they portray," and by the interpretation of these sources.

In preparing "Real Stories from Our History" the author has kept in mind this report which voiced the plea made by teachers for books that would give human interest to facts that to many seem remote and colorless.

In many cases the facts in this volume have been drawn from original sources. Parts of journals and diaries have been presented and interpreted. The effort has been made to give vivid pictures of the life of the colonists, to tell stories of the pioneers, and to suggest stages in the development

of the country by describing the changing means of transportation and communication. In most cases the stories center about the man or the woman who is vitally connected with the incidents told.

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REAL STORIES FROM
OUR HISTORY

Somehow a boy about whom we have simply heard does not seem very real. We may be told that he lives only a thousand miles away, but he seems like a myth, until, perhaps, we have a letter from him. Then he seems like a real boy.

In like manner, it is hard to realize that the first settlers in the American Colonies were real people, they lived so long ago.

But a peep into the diary kept by Captain John Winthrop, one of the first settlers, will make him seem as real as the boy a thousand miles away when the first letter is received from him.

CHAPTER I

COMING TO THE COLONIES

Our children and others that were sick, and lay groaning in the cabin, we pitched out, and having stretched a rope from the steerage to the mainmast, we made them stand, some of one side and some of the other, and sway it up and down till they were warm, and by this means they soon grew well and strong.

Thus John Winthrop wrote, in his diary, of the treatment given to the passengers on the good ship *Arbella*, which sailed with other vessels from Southampton, England, on March 22, 1631, bearing toward the longed-for American home many of those who had cast in their fortunes with the Company of Massachusetts Bay.

Of the four ships in the fleet the *Arbella* was the largest. A vessel of three hundred and fifty

tons, carrying twenty-eight guns and fifty-two men, would not seem large in this day when a steamer of ten thousand tons burden, carrying a crew of hundreds of men, seems small; but it was a fair-sized vessel for the days when the first colonists came.



THE COMPANY OF THE PILGRIMS

From a film by Thomas A. Edison, Inc.

The departure of the fleet was an important event. As the vessel approached Yarmouth Castle a salute was given and returned, and Captain Burleigh, captain of the castle, went aboard the *Arbella*. When he left the vessel the captain of the *Arbella* "gave him four shot out of the fore-castle for his farewell."

But the twenty-eight guns were not for salutes only. Fearing that it might be necessary to fight some enemy on the high seas, the men were carefully trained to take their places at the guns. One of the first duties of the captain was to learn who could be depended on to handle a musket.

Two days later everybody on board thought that the expected enemy was about to attack the *Arbella*. Eight sail were sighted, which were thought to be Spanish vessels. As Spain was then at war with England, the decks were cleared for action, and the guns, powder chests, and fireworks were made ready. Cabins which were in the way of the guns were taken down; bedding, which might catch fire, was thrown overboard, and a ball of wildfire fastened to an arrow of a crossbow was sent far out on the water, where it burned a long time.

The women and children were hurried to the lower deck, where they would be safe. Not one of these showed fear, though all knew the danger, "for," as John Winthrop wrote, "our trust was in the Lord of Hosts; and the courage of our captain, and his care and diligence, did much to encourage us."

Yet there was no reason for the warlike preparations. When the ships drew near, it was seen that they were all friendly vessels. Shots were

fired as salutes, and "fear and danger was turned into mirth." Thus relieved, the captain of the *Arbella* paused to buy fresh fish of passing fishing boats. The Governor and his company wished to put off as long as possible the days when the ship's company would be dependent on salt meat.



MODEL OF THE HALF MOON, HENRY HUDSON'S SHIP

That there was strict discipline on the vessel may be seen from an entry in John Winthrop's journal:

This day two young men falling at odds and fighting, contrary to the orders which we had published and set up in the ship, were adjudged to walk upon the deck till night with their hands bound behind them; and another man, for using contemptuous speeches in our presence, was laid in bolts till he submitted himself.

The vessels of the fleet managed to keep close together, in spite of stormy weather. Sometimes, when the sea permitted, the captains would gather on one of the ships for a feast, while the women and children ate apart in the cabin. In this way the monotony of the voyage was broken.

When more than three weeks had passed, there was an unusually stormy Sunday, but the storm was not made an excuse for omitting the regular services. Two long sermons were preached that day.

Every day or two there was trouble with some passenger or member of the crew. Once two landsmen broke into a vessel of "strong water," and stole some of it; for this they were put in irons, one of them was whipped, and they were fed for a day on bread and water. It was thought worth noting that not all those on board were troublesome. "We have many young gentlemen in our ship, who behave themselves well," was once written in the journal.

As the vessels drew nearer to the new home, the Governor was watching for unusual sights. He noted the fact that the moon looked much smaller than he had ever seen it, that many "fowls" were seen flying and swimming, and that the sun was not so warm as in England. Because of this

last fact he urged that others who might come on later vessels should carry warmer clothing than the passengers on the Arbella had thought necessary.

Usually the passengers and their servants were cheerful and happy, even though they were confined to narrow quarters and had comparatively little to eat. It was necessary to have strict rules for the distribution of the food, and those who disobeyed had to be punished. One case mentioned is that of a servant who had promised a child a small present if the child would give him three biscuits a day during the voyage. In this way he received about forty biscuits, which he sold to other servants. When his action was discovered, his hands were tied to a bar, a basket filled with stones was hung about his neck, and he was made to stand thus for two hours.

Food was so scarce when Cape Cod was near that the Arbella was anchored and lines were put out. In two hours sixty-seven codfish were taken, "near a yard and a half long, and a yard in compass." "This came very seasonably," the record is made, "for our salt fish was now spent, and we were taking care for our victuals for this day."

At Cape Ann most of the people went ashore, and came back with many fine strawberries.

A few days later the vessel went on to "Mat-tachusetts, to find out a place for our sitting down." This was found after sailing up Boston Harbor and six miles up the Mystic River.

Other vessels of the fleet arrived a few days later. When the Talbot came, it was reported that fourteen passengers had died during the voyage. The captain of the Success reported that many of his passengers "were near starved." But the hardships of the long voyage were forgotten when men, women, and children left the vessels for a new home in the land of their dreams.

Source. JOHN WINTHROP. The History of New England from 1630 to 1649, Vol. I. Phillips & Farnham, Boston, 1825.

What did the colonists do when they landed? What did they think of the new country? Were they sorry they had come? How did they stand the severe winter weather? How did they secure needed supplies? What did they wear, and what did they eat? How did they get along with the Indians?

CHAPTER II

FIRST EXPERIENCES IN THE NEW LAND

Three weeks after the landing of the Arbella's company in Massachusetts, John Winthrop wrote to his son in England:

For the country itself, I can discern little difference between it and our own. We have had only two days which I have observed more hot than in England. Here is as good land as I have seen, but none so bad as there. Here is sweet air, fair rivers, and plenty of springs, and the water better than in England. Here can be no want of anything to those who bring means to raise out of the earth and sea.

In another letter he said:

We are here in a paradise. Though we have not beef and mutton, &c., yet (God be praised) we want them not, our Indian Corn answers for all. Yet, here is fowl and fish in great plenty.

In September, after there had been many hardships, he wrote to his wife:

I like so well to be here as I do not repent my coming ; and if I were to come again, I would not have altered my course, though I had foreseen all these afflictions. I never fared better in my life, never slept better, never had more content of mind, which comes only by the Lord's good hand ; for we have not the like means of those comforts here, which we had in England.

The colonists soon found that there were many things they lacked, although they had tried to foresee all pressing needs when preparing for their voyage. And so, when John Winthrop, Jr., was planning to come out from England, he was asked to bring certain supplies :



JOHN WINTHROP

Bring . . . meal, and peas, and some oatmeal, and sugar, fruit, figs, and puffs, and good store of saltpetre, and conserve of red roses and mithridate, good store of pitch, and ordinary suet or tallow. Bring none but wine vinegar, and not much of that, and be sure that the cask be good ; store of oiled calves-skins of the largest ; and the strongest

welt-leather shoes and stockings for children ; and hats of all sizes. If you could bring two or three hundred sheepskins and lamb-skins with the wool on, dyed red, it would be a great commodity here ; and the coarsest woolen cloth . . . of sad colors, and some red ; millstones, some two foot and some three foot over, with bracings ready cast, and rings and pull-bells ; store of shoemaker's thread and hobnails ; chalk and chalkline ; and a pair or two, or more, of large, steel compasses ; store of coarse linen, and some birdlime.

Many of these items were in demand because of the severe winters, which were a surprise to the colonists. On one occasion John Winthrop wrote to his son :

Winter hath begun early with us. The bay hath been frozen all over, but is now open again ; and we had a snow last week of much depth in many places. It came with so violent a storm, as it put by our lecture for that day.

A letter dated "XIth, 22, 1637," and signed "JO.W." gives another vivid picture :

We had letters from Conectacott, where they were shut up with snow above a month since, and we at Boston were almost ready to break up for want of wood, but that it pleased the Lord to open the bay (which was so frozen as men went over it in all places,) and mitigate the rigour of the season ; blessed be his name. On Friday was fortnight, a pinnace was cast away upon Long Island by Natascott, and Mr. Babbe and others, who were in her, came home upon the ice. We have had one man frozen to death, and some others have lost their fingers and toes.

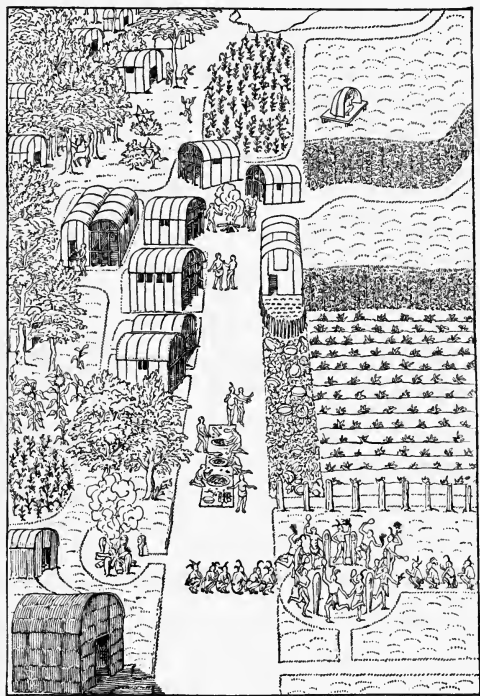
Another company of shipwrecked colonists kindled a fire on a barren shore, "but, having no hatchet, they could get little wood, and were forced to lie in the open air all night, being extremely cold." In the morning they were seen by two Indian squaws, who brought their husbands. The men took the refugees to their wigwams, ministered to them, and built a wigwam for their own use. When one of the company died as a result of the exposure, the Indians hewed a hole in the frozen ground, buried the body, and covered it with a great heap of wood, to keep it from the wolves.

Other evidences of friendliness on the part of the Indians are recorded in the letters. Once "Wahginnacut, a sagamore upon the River Quonehtacut, which lies west of Naragancet, came to the governour at Boston, with John Sagamore, and Jack Straw and divers of their sannops, and brought a letter to the governour from Mr. Endecott to this effect: That the said Wahginnacut was very desirous to have some Englishmen to come plant in his country, and offered to find them corn and give them yearly eighty skins of beaver, and that the country was very fruitful, &c., and wished that there might be two men sent with him to see the country."

This invitation was not accepted, for already the colonists had reason to suspect treachery. They feared the Indians, perhaps many times without reason.

In his journal Governor Winthrop recorded an adventure which revealed this fear:

The governour, being at his fine house at Mistick, walked out after supper, and took a piece in his hand, supposing he might see a wolf (for they came daily about the house, and killed swine and calves, &c. ;) and,



INDIAN VILLAGE

being about half a mile off, it grew suddenly dark, so as, in coming home, he mistook his path, and went till he came to a little house of Sagamore John, which stood empty. There he stayed, and having a piece of match in his pocket, (for he always carried about him match and a compass . . .) he

made a good fire, . . . but could not sleep. It was (through God's mercy) a warm night, but a little before day it began to rain, and, having no cloak, he made shift by a long pole to climb up into the house. In the morning, there came hither an Indian squaw, but perceiving her before he had opened the door, he barred her out; yet she stayed there a great while essaying to get in, and at last she went away, and he returned safe home, his servants having been much perplexed for him, and having walked about, and shot off pieces, and hallooed in the night, but he heard them not.

Dread of the Indians led to the desire for a fortified town. On December 6, 1631, "the governour and most of the assistants, and others, met at Roxbury, and there agreed to build a town fortified upon the neck between that and Boston, and a committee was appointed to consider of all things requisite, &c."

On December 14 "the committee met at Roxbury, and upon further consideration, for reasons, it was concluded that we could not have a town in the place aforesaid: 1. Because men would be forced to keep two families. 2. There was no running water; and if there were any springs, they would not suffice the town. 3. The most part of the people had built already, and would not be able to build again." "So we agreed to meet at Watertown that day sen'night," John Winthrop concluded, "and in the meantime other places should be viewed."

On December 21 the company met at Watertown, "and there upon view of a place a mile beneath the town, all agreed it a fit place for a fortified town, and we took time to consider further about it."

A tax of £60 was ordered for the expenses of fortifying the new town. But there was difficulty in raising the amount. At a public hearing in Boston, citizens of Watertown declared that "it was not safe to pay money after that sort, for fear of bringing themselves and posterity into bondage."

This objection was speedily answered, the taxes were paid, and the work of town building was continued.

Source. JOHN WINTHROP. The History of New England from 1630 to 1649, Vol. I. Phillips & Farnham, Boston, 1825.

Step over the threshold into the homes of some of the early colonists, and see how they lived. Of course the first shelters were crude, but they were homes, and many who lived in them were as happy there as when they were able to replace them with fine houses.

CHAPTER III

THE HOUSES OF THE COLONISTS

It is known that many of the first settlers in Connecticut, especially the poor people, lived for a time in what were called cellars. These were built in much the same way as the outside vegetable cellars used by farmers to-day.

When preparing to build a cellar-house, the colonist looked for a hillside or a bank of earth, and in the side of this dug a shallow pit. The excavation in the bank was about seven feet deep at the rear, the earth walls sloping to the ground level at the front. The next step was to line the sides of the excavation with rough stones or with logs set upright and close together; these walls reached to a height of perhaps seven feet on all sides. Thus the earth bank at the rear was as high as the walls. Sometimes the earth was banked high on the sides also.

The roof was made either of logs, plastered with clay, or with bark or thatch on poles. While no drawings of such houses are known, it is thought from descriptions written at the time that the roof was somewhat steep.

Many of the well-to-do colonists built more ambitious houses. Skilled artisans came to the



CELLAR-HOUSES

colonies with the first immigrants, and from the beginning they had plenty of work. Nicholas Clark was one of these early Connecticut builders. He constructed a house for John Talcott, of which the owner's son wrote as follows:

The kitchen that now stands on the north side of the house that I live in was the first house that my father built in Hartford in Connecticut Colony, and was done . . .

in the year 1635. My father and mother and his family . . . lived first in said Kitchen, which was first on west side of chimney. The great barn was built in the year 1636, and underpinned in 1637, and was the first barn that was raised in the colony. The east side of this house . . . was built with the porch that is, in the year 1638, and the chimneys were built in 1638

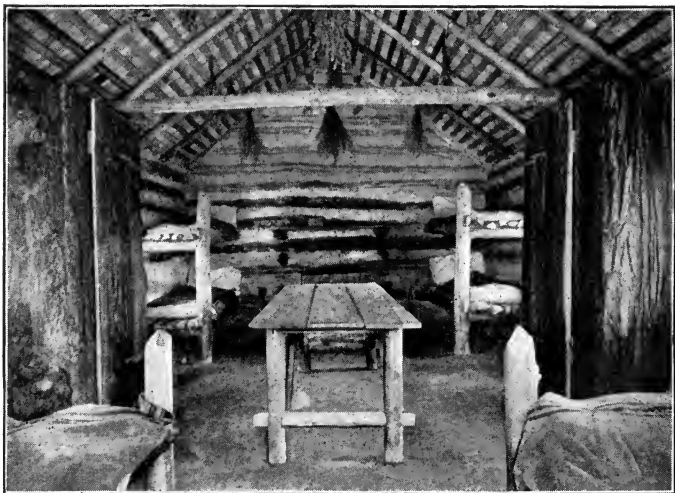
By "chimneys," the writer probably meant "flues." At first there was a wooden chimney, at the end of a single room. When the stone chimney was built, another room was added against the chimney. Later additions made the house a story-and-a-half structure, with two rooms on each floor, and a lean-to kitchen.

In most two-story houses the rooms above were larger than those below, since the wall of the upper story often projected about eighteen inches, after the style of houses in which some of the colonists had lived in England. Such houses may be seen to-day in old sections of Hartford, Boston, and Philadelphia.

These houses were made warm by filling the wall spaces with mixed hay and clay. Clapboards hewn by the builder's ax were nailed outside this protecting mixture.

A study of the last wills of several of the colonists reveals curious facts as to the houses. For

instance, the will of Thomas Nowell of Windsor, who died in 1648, showed that he was the proud owner of a frame house of two stories, for, in speaking of the parlor and the kitchen, he mentioned also the "parlor loft," and the "kitchen Lofts

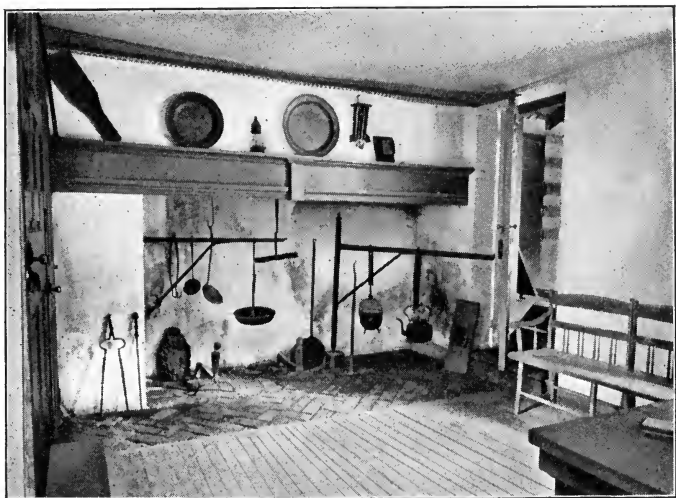


PRIMITIVE SLEEPING QUARTERS

and Garrits." The parlor loft contained a bed, worth £5. Evidently this was the best bedroom.

Another will declared that the house occupied by the testator should be divided among the children. This was done, not by selling the building and dividing the proceeds, but by actually dividing the house! This was possible because the houses

of that day were built to last for centuries, their timbers being many times larger than those used in houses of similar size to-day. The halves of a house thus divided would be placed on separate lots. A house in Farmington, Connecticut, built



IN THE KITCHEN

between 1650 and 1660, was thus divided; the halves were occupied as separate tenements as late as 1910.

The Whitman house, in the same town, built probably about 1660, was in use two hundred and fifty years later, almost unchanged. Chimney, roof, clapboards, and some other parts have been

renewed, but "otherwise the venerable house is in the shape in which the carpenter and the mason left it, even to the two flights of stairs which ascend from the first floor to the garret, and the stone steps from the hall by which you may still reach the cellar under the parlor."



A SEVENTEENTH-CENTURY HOUSE

While the houses built at this period varied in size, they did not vary much in plan. The main rooms were practically the same in all the houses. The great stone chimney was the central feature. On one side was the hall, or living room, on the other side the parlor, of equal size. At the back

was the lean-to addition, the kitchen, with its fireplace in the side of the chimney. At the front was the entry hall, in those days called the porch. The stairway was against the chimney, which, of course, had no opening on that side.

The Joseph Whiting house, which long stood on Main Street in Hartford, near the corner of Charter Oak Avenue, had an unusually steep roof, under which were the following rooms, as named in a document on file at Hartford: On the first story were parlor, dwelling room (the hall), kitchen, little bedroom. In the second story were the parlor chamber, the little chamber, the middle chamber, the lean-to chamber, and the kitchen chamber. Then there were the garret and the cellar. All these rooms except the hall and the parlor were added to the original dwelling at a later date. In the grounds were the workshop and the "old shopp."

The document gives also the value of this large house: "The Manton House and homestead on rood with the barn stable and outhouses £155."

Property was not high in those days.

Source. NORMAN M. ISHAM and ALBERT F. BROWN. *Early Connecticut Houses*. Preston and Rounds Co., Providence, R. I. The illustration of cellar-houses on page 18 is adapted from this volume.

Hundreds of miles to the south of the land which seemed so strange to John Winthrop and his little company, and a little after the time of the landing of those early home-seekers, an explorer kept his eyes open for marvels. Once he wrote to England of "fireflies who carry their lanthorns in their tails."

CHAPTER IV

WITH THE CAROLINA EXPLORERS

On October 16, 1663, William Hilton sailed up "Cape Fair River," as he called it, for a distance of one hundred and fifty miles. He said of his exploration:

We found a good tract of land, dry, well-wooded, pleasant and delightful, as we have seen anywhere in the world, with great burthen of grasse on it, the land being very level, with steep banks on both sides the river, and in some places very high, the wood stored with abundance of deer and turkies everywhere; we never going on shoar, but saw of each, also partridges, great store, cranes abundance, conies, which we saw in several places; we heard several wolves howling in the woods, and saw where they had torn a deer in pieces. Also in the river we saw great store of duck, teils, widgeon, and in the woods great flocks of parrakeetos (a species now almost extinct); the timber that the woods afford for the most part consisting of oaks of four or five sorts, all differing in leaves, but all bearing akorns very good; we measured many of the oaks in several

places, which we found to be in bignesse some two, some three and others almost four fathoms; in height, before you come to boughs or limbs, forty, fifty, sixty foot, and some more.

In 1666 Robert Horns printed a similar description of the country, and added a striking appeal for immigration:

Such as are here tormented with much care how to get worth to gain a livelyhood, or that with their labor can hardly get a comfortable subsistence, shall do well to go to this place, where any man whatever, that is but willing to take moderate pains, may be assured of a most comfortable subsistence, and be in a way to raise his fortunes far beyond what he could ever hope for in England. Let no man be troubled at the thoughts of being a servant for four or five years, for I can assure you that many men give money with their children to serve seven years (as apprentices), to take more pain and fare nothing so well as the servants in this plantation will do.

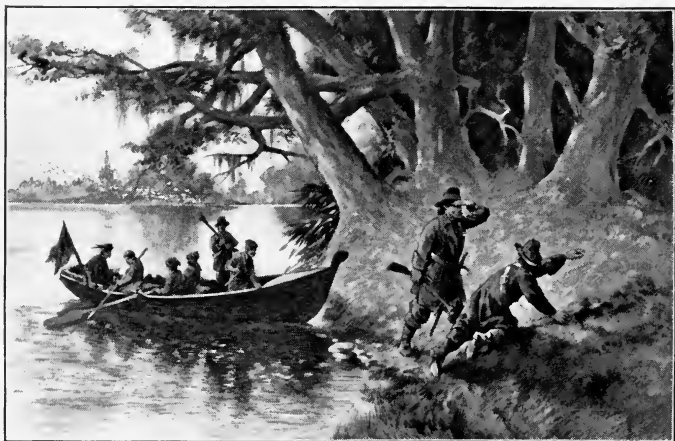
For fear men only would listen to these fervent appeals, the following was added:

If any maid or single woman have a desire to go over, they will think themselves in the Golden Age, when men paid a doury for their wives; for if they be but civil, and under 50 years of age, some honest man or other will purchase them for their wives.

In 1666 Robert Sandford made a voyage to the province of Carolina. When in the vicinity of

Bohicket Creek, he left his boat, with a small party, in search of the "Towne" of the Indian "Casique"¹ of the neighborhood. He told of his trip thus:

Wee crossed one meadowe of not less than a thousand acres, all firme, good land and as rich a soyle as any, clothed



A LANDING IN THE PROVINCE OF CAROLINA

with a fine grasse and not passing knee deepe, but very thick sett and fully adorned with yeallow flowers; a pasture not inferior to any I have seen in England. . . . Being entered the towne wee were conducted into a large house of a circular forme (their general house of state). Right against the entrance was a high seate of sufficient breadth for half a dozen persons on which sate the Cassique himself

¹ A cacique (modern spelling) was a chief or prince among the Indians.

with his wife on his right hand. He was an old man of large stature and bone. Round the house from each side of the throne quite to the entrance were lower benches filled with the whole rabble of men, women and children. . . . Capt. Cary and my selfe were placed on the highe seats on each side of the Casique, and presented with skins, accompanied with their ceremonies of welcome and friendshipp (by stroking their shoulders with their palmes and sucking in their breath the whilst). The town is scituate on the side or rather in the skirts of a faire forest, in which at several distances are diverse fields of maiz with many little houses straglingly amongst them. . . . Before the doore of their statehouse is a spacious walke rowed with trees on both sides, tall and full branched, not much unlike to elms, which serves for the exercise and recreation of the men, who by couples runn after a marble bowle troled out alternately by themselves, with six foote staves in their hands, which they tosse after the bowle in the race, and according to the laying of their staves win or loose the beeds they contend for; an exercise approvable enough in the winter, but somewhat too violent (mee thought) for that season and noontide of the day. From this walk is another house aside from the round house for the children to sport in.

In 1682 Thomas Ashe wrote wonderingly of "great numbers of fire flies, who carry their lant-horns in their tails in dark nights, flying through the air, shining like sparks of fire, enlightening it with their golden spangles." This bit of description concluded in an even more startling

manner: "Amongst large orange trees in the night, I have seen many of these flies, whose lights have appeared like hanging candles, or pendent flambeaus, which amidst the leaves and fruit yielded a light truly glorious to behold; with three of these included in a glass bottle, in a very dark night, I have read very small characters."

By descriptions like these the English people of the seventeenth century were lured to America.

Source. Manuscripts, etc., of the South Carolina Historical Society.

Think of a church building without a floor, without heat in the coldest weather, whose seats had no backs, and whose walls were thirty inches thick, because built for defense against the Indians. This was the sort of building in which many of the colonists worshiped on Sunday.

CHAPTER V

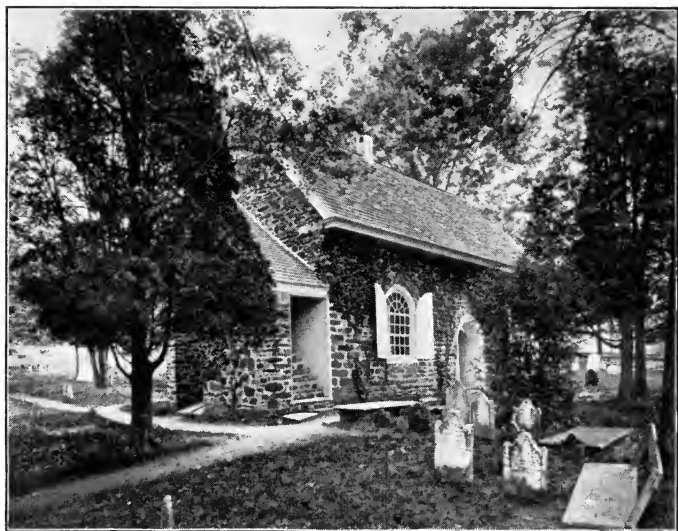
GOING TO CHURCH IN EARLY DAYS

When the first settlers came to America from England, they usually tried to secure a church building as soon as possible. Frequently they insisted on having a place in which to worship God while their own houses were still incomplete. They were often content with primitive buildings, but as soon as possible the first structures were replaced.

These early settlers did not like to have a debt resting on the houses in which they were to worship. So, frequently, it was necessary to leave them unfinished. St. David's Church, at Radnor, Pennsylvania, begun in 1715, was long a mere shell. The people in the pews could look up to the bare rafters which bore the marks of the woodsman's ax. For fifty years there was no floor; men and women were glad to stand on the bare ground. To-day a congregation is proud to worship in this old

building, which, except for a few minor features, looks nearly as it did almost two hundred years ago.

Of course there were no stoves in those colonial churches. Foot stoves, full of hot embers, were carried into the pews by the members of the



ST. DAVID'S CHURCH, RADNOR, PENNSYLVANIA

congregation who could afford the luxury. Those who had slaves sent them with the stoves a little early. In many places there would be a company of these slaves waiting for their masters at the church door. When, one by one, the masters arrived a slave would separate himself from his

fellows, precede his master to the pew, arrange the foot stove and respectfully retire to a seat in the gallery. At the close of the service he would return, take up the stove once more and carry it home that it might be in readiness for another Sunday. At a church in Albany, New York, it was a common thing to see from fifty to seventy-five of these slaves at the church door. It is said that at this same church in cold weather the men kept their hats on their heads, and protected their hands by burying them in muffs.

The introduction of stoves came slowly. In some places the foot stoves were still in use in 1825. When iron stoves were admitted to the churches, many of the worshipers did not like to give up their old ways. In the First Church of Hartford, Connecticut, worshipers insisted on bringing foot stoves long after the heating stoves were installed. Then warning was given that the sexton would carry from the building any foot stove found lighted after the beginning of service. In Albany, New York, heating stoves were placed on platforms level with the gallery, and from the gallery bridges ran across to the platforms, so that the sexton might reach the fires. It is no wonder that there was at first a preference for the old method of securing heat.

The men were often seated on one side of the church while the women were across the aisle, but in many places it was thought best to have entire families sit together. For this purpose pews with high backs, each pew as large as a fair-sized closet, were provided. Seats were arranged on three sides of the interior of the pew. Sometimes the seats were hinged and could be lifted up, thus giving the worshipers more standing room. The fourth side of the pew was devoted to the door. In some primitive churches, however, there was no such luxury. The seats were plain puncheon, without backs.

At Trinity Church, Wilmington, Delaware, the pews were allotted to the heads of families who had been most helpful in the work of building, the choicest pew to the best giver and worker. The occupants not only had a right to the pews thus allotted, so long as they lived, but they were privileged to sell them, or to bequeath them to their children after them. In King's Chapel, Boston, the two best pews were reserved for the rector and the governor. The next best were for "masters of vessels," and for the old men of the church. At Saybrook, Connecticut, the seats were plain, backless benches, and were assigned "according to rank, age, office, and estate." It was thought that the



G. H. Boughton

PILGRIMS GOING TO CHURCH

backless benches would restrain occupants from sleeping. Some wealthy members, not satisfied with this arrangement, were given permission to build pews at the sides of the pulpit.

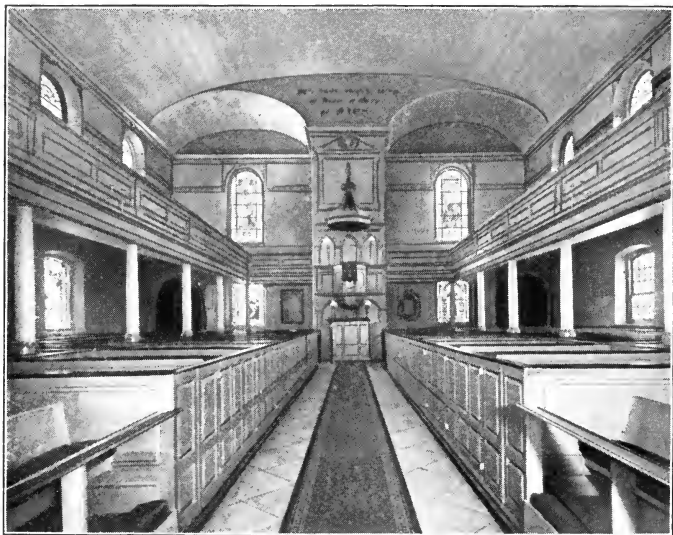
The form of pulpit used in many of these old churches was a drum-shaped inclosure, perched on a pillar, with a sounding board, like a canopy, above it. A winding stair led to the pulpit. On the steps the boys were sometimes seated, the top step being the coveted position, for its occupant could proudly open the door for the minister when he entered the pulpit. From this pulpit the minister could look down on his entire congregation, while the people could see him only by craning their necks.

It was a problem how to get notices to the minister, for it was not always convenient to climb the long stairs. In the Dutch Reformed Church at Kingston, New York, an ingenious clerk, when receiving the notices of funerals, christenings, weddings, or merrymakings, reached them up to the dominie on the end of a bamboo pole.

The colonists were poor, but they were liberal. Until 1795, in the Old Dutch Church at Albany, New York, the deacons would take up the collection in the midst of the dominie's sermon. They used bags at the ends of poles. Bells were attached to the bags to arouse any who were sleeping. At

Hartford the members of the church were expected to march with their gifts to the deacons' table.

Money was not always at hand; gifts were then made in produce. Christ Church, at Alexandria,



INTERIOR OF ST. PETER'S CHURCH, PHILADELPHIA

Virginia, was built by the sale of thirty-one thousand pounds of tobacco. The pastor's salary was also paid in tobacco, while the poor of the church were supported by fines, paid in tobacco, for such offenses as "killing deer out of season," or "hunting on the Sabbath." In Kingston, New York, the pastor's salary was paid in wheat.

Of course the early settlers had to be on their guard against Indians on Sunday as well as during the week. For this reason the Old North Church at Portsmouth, New Hampshire, was built on a hill. The First Dutch Reformed Church of New



OLD SWEDES CHURCH, PHILADELPHIA

York was built within the fort. In Schenectady a gallery was built solely for the use of those who watched for the Indians. Center Church, New Haven, had a turret, in which stood a sentinel every Sunday; armed guards were stationed near at hand on the road. Two cannons were charged before

each service. At Dover, New Hampshire, log fortifications surrounded the meetinghouse. Traces of the earth embankments, raised for additional protection, are still to be seen. A drum was beaten to call the people to church, for fear the sound of a bell would tell the Indians that the people were absent from home. At Tarrytown, New York, the walls of Pocantico Church were thirty inches thick, to resist Indian attacks, while the church at Herkimer, New York, was buttressed for the same reason.

So well were these seventeenth-century churches constructed that a few of them are still in use. The Old Swedes Church, in Philadelphia, built in 1697, is occupied regularly. The Old Ship Church at Hingham, Massachusetts, though finished in 1682, is as stanch as ever and bids fair to last another century. No such buildings are erected to-day. While men have improved on some of the primitive methods of their forefathers, they do not seem to have learned to build for the centuries.

Source. NELLIE URNER WALLINGTON. *Historic Churches of America.* Duffield & Co., New York.

First the church, then the school. Furniture was primitive, books were few, and every boy and girl had to pay tuition. Masters were stern and boys were whipped every day. And not even the wealthiest parent in the town was allowed to find fault with the master.

CHAPTER VI

GOING TO SCHOOL IN OLD NEW ENGLAND

The boys of New England had a chance to go to school about as soon as they could go to church. Indeed, they were given more than a chance; they were compelled to attend under severe penalty for failure. Their parents had to pay the penalty, and in many cases they had to pay the tuition of the truants, too; for this was the rule adopted by one town meeting, "Boys from six to twelve years of age shall pay the Schoolmaster, whether they go to school or not, four pence a week for Wrighters, and three pence a week for Readers."

The schoolhouse to which the "Readers and Wrighters" found their way for the few months in each winter when the teacher was provided, cannot have been unlike the little one-room district schoolhouse still common in many parts of the country. The primitive schoolhouse "was usually a

small, one-room building which was entered through a shed-like hallway in which wood was piled and where hats, coats, and dinner-pails were also stored," says the author of "Social Life in Old New England." "Sometimes wood was furnished by the parents, the child of a stingy father being then, by



AN OLD SCHOOLHOUSE

common consent, denied intimate relations with the fire. After the time of fireplaces a large square stove in the center of the room was the usual method of heating. From this a long pipe, suspended by chains, reached to the end of the building, where the chimney stood. Frequently the primitive heating-plant had to cope with the

problem of raising the temperature from twelve below zero, when school opened, to a temperature favorable to 'wrighting.' "

In Dorchester, Massachusetts, in 1643, it was ordered that on summer days school should be in session from seven in the morning until five in the afternoon. In the winter the time was reduced one hour in the morning and one hour in the afternoon. The noon recess lasted two hours, from eleven to one, five days in the week. On Monday, for school kept six days in the week, there was another program. The town selectmen told what was to be done during these two hours on Monday:

The master shall call the scholars together between twelve and one of the clock to examine them what they have learned, at which time also he shall take notice of any misdemeanor or outrage that any of his scholars shall have committed on the sabbath, to the end that at some convenient time his admonition and correction may be administered.

He shall diligently instruct both in lessons and good literature, and likewise in point of good manners and dutiful behavior towards all, especially their superiors. Every day of the week at two of the clock in the afternoon, he shall catechize his scholars in the principles of the Christian religion.

He shall faithfully do his best to benefit his scholars, and not remain away from school unless necessary. He shall

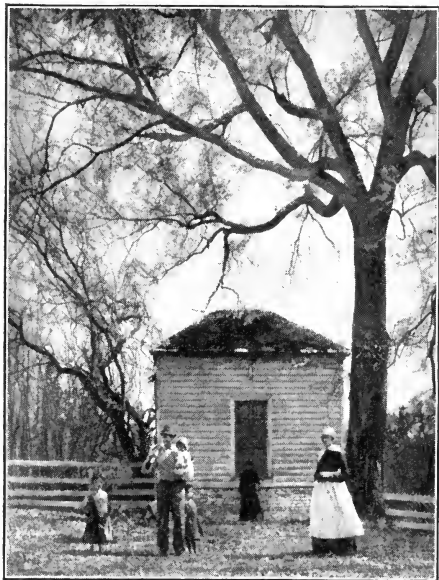
equally and impartially teach such as are placed in his care, no matter whether their parents be poor or rich.

It is to be chief part of the schoolmaster's religious care to commend his scholars and his labors amongst them unto God by prayer morning and evening, taking care that his scholars do reverently attend during the same.

The rod of correction is a rule of God necessary sometimes to be used upon children. The schoolmaster shall have full power to punish any or all of his scholars, no matter who they are. No parent or other person living in the place shall go about to hinder the master in this. But if any parent or others shall think there is just cause of com-

plaint against the master for too much severity, they shall have liberty to tell him so in friendly and loving way.

The school in which these rules were observed was perhaps the first public school in America supported by general taxation. In 1637, when the



THE PLANTATION SCHOOL WHERE THOMAS
JEFFERSON LEARNED TO READ

town was less than two years old, arrangements were made to build a meetinghouse. Seven years later, in 1644, a school was arranged for, the vote of the town being as follows:

The said inhabitants, taking into consideration the great necessitie of providing some means for the Education of the youth in our s'd Towne, did with an unanimous consent declare by voate their willingness to promote that worke, promising to put too their hands, to provide maintenance for a Free School in our said towne.

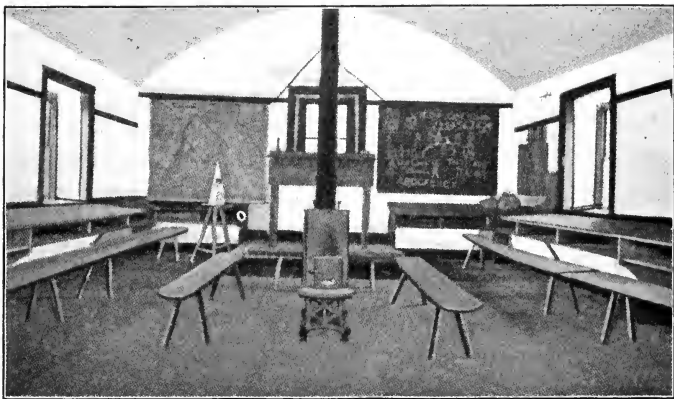
And further did resolve and consent, testifying it by voate, to rayse the summe of Twenty pounds pr annu towards the maintaining of a School Mr. to keep a free School in our s'd towne.

And also did resolve and consent to betrust the s'd 20 pound pr annu & certain lands in our town previously set apart for publique use, into the hand of Feoffes to be personally chosen by themselves, to supply the s'd 20 pounds and the land afores'd to be improved for the use of the said School: that as the profits shall arise from y^e s'd land, every man may be proportionately abated of his share of the s'd 20 pounds aforesaid, freely to be given to y^e use aforesaid.

Five years later the fathers decided that their children must not go to school any longer in the church building; they would build a schoolhouse for them. So the schoolhouse was made ready, a building fourteen feet long, with a great chimney four feet deep at one end, and fifteen feet wide.

Against the rear end of the chimney was to be a lean-to watch-house, six feet wide. In this watch-house a sentinel was always to be on guard at night, lest the town be surprised by Indians.

In the early schools little children learned the alphabet from a hornbook, which is described as



INTERIOR OF A COLONIAL SCHOOLHOUSE AT VALLEY FORGE,
PENNSYLVANIA

“a rough piece of paper fastened on a slab of wood and covered with a transparent sheet of horn.” As early as 1691 the hornbook was displaced by the famous “New England Primer.”

Unfortunately, girls were not admitted to the privileges of these early public schools. Many schools were not open to them until toward the close of the seventeenth century.

Even the boys in many districts found little opportunity to go to school. Their school was in the open air, where hard work was to be done. "They spent most of their time in the fields and the forests and along the rivers and the sea, hunting bears and deer, trapping foxes, shooting wild turkey, wild geese and wild ducks; or fishing, riding, driving, swimming, rowing and sailing; or at work with those who were laying out roads through the woods, digging wells and ditches, making walls and fences, assisting in building houses, barns, fortifications, churches, boats; laying out and cultivating gardens and planting orchards. They thus became hardened to the climate, and gained good constitutions, and moreover became acquainted with natural objects — rocks and soils; animals wild and tame; the trees and shrubs of the woods and the flowers and herbs of the garden and the fields."

Sources. MARY CAROLINE CRAWFORD. *Social Life in Old New England.* Little, Brown, and Company, Boston.

CLIFTON JOHNSON. *Old Time Schools and School Books.* The Macmillan Company, New York.

GEORGE B. EMERSON. *Education in Massachusetts* (Chapter XIII in "Massachusetts and its Early History." Lowell Institute Lectures, published by the Society).

While Thomas Dustin, of Haverhill, Massachusetts, was building his second house, he was attacked by hostile Indians. The tragic story of the capture of his wife, of her trying experience in captivity, and of her escape from the red men, is one of the thrilling tales of the early days.

CHAPTER VII

CARRIED AWAY BY THE INDIANS

When Thomas and Hannah Dustin were married in 1677, they built, near Haverhill, Massachusetts, and not far from the left bank of the Merrimack River, a little house of imported brick. The house has disappeared, but frequently a visitor to the spot uncovers one of the bricks and marvels at the building material brought across the sea.

Later Thomas Dustin found deposits of clay near his home which led him to make experiments in brickmaking. He was so successful that his product was in demand; villagers said that the Haverhill bricks were fully as good as those brought from England.

Strong building material was needed, for hostile Indians were continually making attacks on the villagers. To afford protection against the savages, Mr. Dustin began to build a new house. As this

house is still standing, it is possible to tell of its construction. A Haverhill resident says that "white oak, which is to-day well preserved, was used in its massive framework, and the floor and roof



THE GARRISON HOUSE

timbers are put together with great wooden pins. In early days the windows swung outward, and the glass was very thick, and set into the frames with lead."

On March 15, 1697, Mr. Dustin was at some distance from the old house, cutting wood. All his children except the youngest, a baby, were playing near

by. Suddenly there was a war whoop. A company of Indians in war paint, brandishing tomahawks, burst from the forest. Gathering his children about him, Mr. Dustin started with them for the old house, to save his wife and baby. But he was too late. Another party of Indians had killed the

baby, and had carried away Mrs. Dustin and the nurse into the forest.

During the fifteen-day journey of one hundred and fifty miles to the stronghold of the Indians in the wilderness between the Contoocook and Merrimack rivers, the captives endured untold hardships. Mrs. Dustin had but one shoe, and neither woman was clad for the journey. Snow and ice had not yet entirely disappeared, and the exposure was trying. At night they were closely guarded by two watchful Indians, so that the longed-for opportunity to escape did not present itself.

When they reached what is now known as Dustin Island, they found other captives there—two men, one woman, and seven children. There was also a boy, Samuel Leonardson, who had been captured a year before at Worcester, Massachusetts.

During the last day's march they learned from the conversation of their captors that when they arrived at the permanent camp they were to be stripped, scourged, and made to run the gauntlet. Through two files of Indians, of both sexes and all ages, they would have to go, being beaten by each Indian as they passed. But the day of the execution of their sentence was postponed. Mrs. Dustin determined that she would not be there at the appointed time, but would escape the

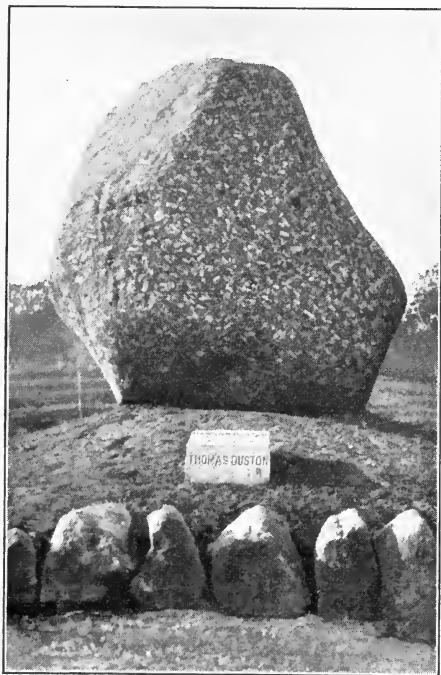
indignity or die in the attempt. For five weeks she watched for her chance. The boy Samuel promised to help her. At her suggestion he learned

from one of the Indians how to scalp a man.

At last the day came when the attempt to escape was to be made. Thinking that escape was impossible, the Indians let the prisoners sleep unguarded, for they did not know that provisions and a canoe had been hidden in readiness.

In the silence of the night Mrs.

Dustin, her nurse, and the boy stole on the Indians and succeeded in killing ten of them. One old squaw and a boy of eleven escaped. After Mrs. Dustin and her companions had reached their canoe, she went back and scalped the Indians, that



THE DUSTIN MEMORIAL

she might claim the bounty offered by the colony for such trophies. Then they scuttled the Indians' canoes and started down the river.

Day after day they paddled down the Merrimack, the three taking turns at the paddle. At night they paused to rest, and cautiously a fire

I Desire to be thankful that I was born in a Land of Light & Baptized when I was young and had a good Education by My Father, tho' I took but little notice of it in the time of it: — I am Thankful for my Captivity, was the Comfortablest time that ever I had: In my Affliction God made his Word Comfortable to me. I remembered Ps. 118. 17. ^{which} I have had a great Desire to come to the Ordinance of the Lords Supper a great while, but fearing I should give Offense & fearing my own Unworthiness has kept me back: reading a Book concerning it & hoping God would awaken me: In the 6th of Jan. by His own invitation I went: — Hearing Mr. M^r say much out of Ps. 136 of Mal. 3. I lost under it put me upon Consideration. It is of great use to have been encouraging to me: I had been rejoicing to offer myself from time to time ever since the settling of the present Ministry: I was awakened by the first Sermon of Mr. Lusk. 14. 17. But Delays and fears prevailed upon me: — But I desire to Delay no longer, being sensible it is My Duty — I desire the Church to receive me this it be at the Seventh hour. & pray for me — that I may lose God and obtain the Salvation of my Soul

Hannah Dustin wife of Thomas p. 67.

HANNAH DUSTIN'S APPLICATION FOR CHURCH MEMBERSHIP, IN WHICH REFERENCE IS MADE TO HER CAPTIVITY

was kindled, that food might be cooked. They were in constant fear of pursuit. While two slept a third stood guard. But no Indians appeared.

After many hardships they came to the home village. The wondering people, who had thought they should never see the captives again, came out to see who the visitors could be. But, instead

of strangers, they found their own old neighbors, and their hearts were glad.

The General Assembly of Massachusetts voted to give Mrs. Dustin a reward of twenty-five pounds, while a similar amount was divided between Mrs. Neff and the boy Samuel. Later the Governor of Maryland sent Mrs. Dustin a silver tankard, which is still treasured by her descendants.

Some time after Mrs. Dustin's return the family moved into the strong new house. This was made a garrison by order of the committee of the militia, organized by the alarmed villagers. The order, which was dated April 5, 1697, was as follows:

To Thomas Dustin, upon the settlement of garrisons. You being appointed master of the garrison at your house, you are hereby in His Majesty's name required to see that a good watch is kept at your garrison both by night and by day by those persons hereinafter named, who are to be under your command and inspection in building or repairing your garrison; and if any persons refuse or neglect this duty, you are accordingly required to make return of the same under your hand to the committee of the militia in Haverhill.

The garrison was completed by men who worked under guard. The Indians were so bold that a file of soldiers had to be detailed to protect those

who brought the clay from the pits to the yard, where it was made into bricks.

Sources. ROBERT B. CAVERLY. Heroism of Hannah Dustin. B. B. Russell, Boston.

Hannah Dustin Papers (furnished by George F. Bosworth, descendant of Hannah Dustin, Montpelier, Vermont).

Not all the Indians were hostile. "The Indian and the English must live in Love, as long as the Sun gives light"; thus it was decided by William Penn and the Indians with whom he made the treaty that secured for him the land on which the city of Philadelphia was built.

CHAPTER VIII

THE BEGINNINGS OF A GREAT CITY

Of all the many Places I have seen in the World, I remember not one better seated; so that it seems to me to have been appointed for a Town.

This was the judgment concerning the new town of Philadelphia, expressed by William Penn to those interested financially in the venture. The message may be read in full in the quaint book entitled: "A Letter from William Penn, Proprietary and Governour of Pennsylvania in America, to the Committee of the Free Society of Traders of that Province, residing in London. Containing a General Description of the said Province, its Soil, Air, Water, Seasons and Produce, both Natural and Artificial, and the good Encrease thereof. Of the Natives or Aborigines, their language, Customs and Manners, Diet, Houses or Wigwams, Liberality, easie way of Living, Physick, Burial,

Religion, Sacrifices and Cantico, Festivals, Government, and their order in Council upon Treaties for Land, &c. and their Justice upon Evil Doers. To which is added, An Account of the City of Philadelphia, Newly laid out. Its Scituation between two Navigable Rivers, Delaware and Skulkill, with a Portraiture and Plat-form thereof. Sold by Andrew Sowle, at the Crooked-Billet in Holloway-Lane in Shoreditch, and at several Stationers in London, 1683."



TYPE OF WILLIAM PENN'S SHIP, WELCOME
From a contemporary engraving

Those who have the opportunity of reading this curious document are able to put themselves in the place of the staid Englishmen who sought information about the strange land beyond the sea. The writer regaled them with information that must have seemed somewhat startling.

Writers of prospectuses in these late days would read with disdain the proprietor's introductory

words concerning his province of Pennsylvania: "The Country itself in its Soyle, Air, Water, Seasons and Produce both natural and artificial is not to be despised." Later, however, he became almost enthusiastic when writing of the



PENN'S TREATY WITH THE INDIANS

natural beauty of the country. "The Woods are adorned with lovely Flowers, for color, greatness, perfume and variety. I have seen the Gardens of London best stored with that sort of Beauty, but think they may be improved by our woods. I have sent a few to a Person of Quality this year for tryal."

Of the Indians he wrote rather fully. His descriptions of their ways show how easy it was to deal with them till they learned that the white man could be treacherous.

One paragraph reads:

If an European comes to see them or calls for Lodging at their House or Wigwam, they give him the best place and first cut. If they come to visit us they salute us with an *Itah* which is as much as to say, Good be to you, and set them down, which is mostly on the Ground close to their Heels, their Legs upright; may be they speak not a word more, but observe all Passages: If you give them anything to eat or drink, well, for they will not ask; and be it little or much, if it be with Kindness, they are well pleased, else they will go away sullen, but say nothing.

Here is another statement:

In Liberality they excell, nothing is too good for their friend; give them a fine Gun, Coat, or other thing, it may pass twenty hands, before it sticks; light of Heart, strong Affections, but soon spent; the most merry Creatures that live. Feast and Dance perpetually; they never have much, nor want much. Wealth circulateth like the Blood, all parts partake, and though none shall want what another hath yet exact Observers of Property. Some Kings have sold, others presented me with several Parcels of Land; the Pay or Presents I made them, were not hoarded by the particular Owners, but the neighbouring Kings and their Clans bring present, when the Goods were brought out, the parties chiefly concerned consulted, what and to whom they should

give them : To every King then, by the hands of a Person for that work appointed, is a proportionment so sorted and folded, and with that Gravity, that is admirable. Then that King sub-divideth it in like manner among his Dependents, they hardly leaving themselves an Equal share with one of their Subjects ; and be it on such occasions, at Festivals, or



THE OLD COURTHOUSE, PHILADELPHIA, BUILT IN 1707

at their common Meals, the Kings distribute, and to themselves last. They care for little, because they want but little ; and the Reason is, a little contents them : In this they are sufficiently revenged on us ; if they are ignorant of our Pleasures, they are also free from our Pains.

Concerning a council for treaty-making, Penn wrote :

Their Order is thus : The King sits in the middle of a half Moon, and hath his Council, the old and Wise on each

hand. Behind them, or at a little distance, sit the younger Fry, in the same figure. Having consulted and resolved their business, the King ordered one of them to speak to me; he stood up, came to me, and in the Name of his King saluted me, then took me by the hand and told me, that he was ordered by his King to speak to me, and that now it



THE LETITIA PENN HOUSE

Now in Fairmount Park, Philadelphia

was not he, but the King that spoke, because what he should say, was the King's mind. . . . Having thus introduced his matter, he fell to the Bounds of the Land they had agreed to dispose of and the Price, (which now is little and dear, that which would have bought twenty Miles, not buying now two). . . . When the Purchase was agreed, great Promises past between us of Kindness and good Neighbourhood, and that the Indians and English must live in Love, so long as the Sun gave light Which done, another made

Received from the
 the Indians for
 2000 Dollars

Received from the honorable Thomas and Richard
 Penn Esqrs true and absolute Proprietors of Penn^{la}.
 via by the hands of the honorable Sir William Johnson
 Baronet the sum of two thousand Dollars being the
 full consideration of the Lands lately sold to them by
 the Indians of the six Nations at the late Treaty of
 Fort Stanwix We say received this Twenty eighth
 day of July — Ann. Domini 1769 — for ourselves
 and the other Indians of the six Nations and their confederates
 and dependant Tribes for whom we act and by whom
 we are appointed and empowered —

Witness my present Not. MacLeod
 Messrs. Jay, Tupper, Pitt, Dalrymple
 Jacob A. Cook Justice



Anahogare



Onoghronoron



Onughshiny



For the Cayuga Nation
 by the desire of the whole



Anaquadecka



Sorrehouma



Abraham for the Mohawks



Johannes Tekawirko



Jonathan Kayegaga



Joseph Kayegaga



James Suparowane



Lodowicke Aughewata



Joseph Tagahcaron



Tayume

AN EARLY TREATY WITH THE INDIANS

a Speech to the Indians, in the Name of all the Kings, first to tell them what was done ; next, to charge and command them to Love the Christians and particularly live in Peace with me, and the People under my Government: That many Governours had been in the River, but that no Governour had come himself to live and stay here before ; and having now such a one that had treated them well, they should never do him or his any wrong.

Penn pointed with pride to the record of the city built on part of the ground thus bought from the Indians. He wrote: "It is advanced within less than a year to about Four score Houses and Cottages, such as they are, where Merchants and Handicrafts are following their vocations as fast as they can, while the Country-Men are close at their farms."

In conclusion he gave this message: "I bless God, I am fully satisfied with the Country and Entertainment I can get in it; for I find that peculiar content which hath alwayes attended me, where God in his Providence hath made it my place and service to reside."

Source. A Letter from William Penn, Proprietary and Governour of Pennsylvania in America. Andrew Sowle, London, 1683; reprinted by James Coleman, London, 1881.

Shall we enter the house of one who lived, with his wife, near old Philadelphia, in the midst of "a garden of delight," of which he dreamed when he was still a boy? That garden and that house may be seen to-day on the banks of the Schuylkill, within three miles of the center of the city.

CHAPTER IX

AN EARLY HOME NEAR PHILADELPHIA

There is still standing, now within the city of Philadelphia, a house built in 1731 by John Bartram, who was born in 1699. When a boy, he dreamed of building a home which should be set in the midst of a garden of delight. As he plowed his fields and mowed his meadows he pictured to himself what his garden would be like. And when he became a man he found the way to begin the work.

First he built a large house. Next he hewed out of stone a great watering trough, and made a wonderful cider mill in a ledge of rock on the bank of the Schuylkill. Then he was ready to plant his garden.

But this colonial dreamer was not content to have a garden like those of his neighbors. He wanted a garden that would be a pleasure to him,

and a wonder to all who should see it. He wished to bring to it curious plants and trees from all parts of the world.

If he had told his neighbors of his plans, they would probably have laughed at him. But he did



THE HOME IN THE GARDEN OF DELIGHT

not talk of what he intended to do. As he had not gone to school much, he did not know many things which would be necessary in his work. So he studied at home, teaching himself Latin and Greek, as well as more ordinary subjects. It was hard to study alone, but he persevered.

First he wished to get plants from other parts of America. As the only way to do this was to go after them, he decided to give a part of each year to journeys far from home. He knew that it would be dangerous to travel through the mountains and the wilderness, but he was not afraid. He went as far north as Lake Ontario and as far south as Florida. Many times he narrowly escaped death by exposure or at the hands of Indians. Yet always he took home with him some precious specimen of tree or shrub or plant.

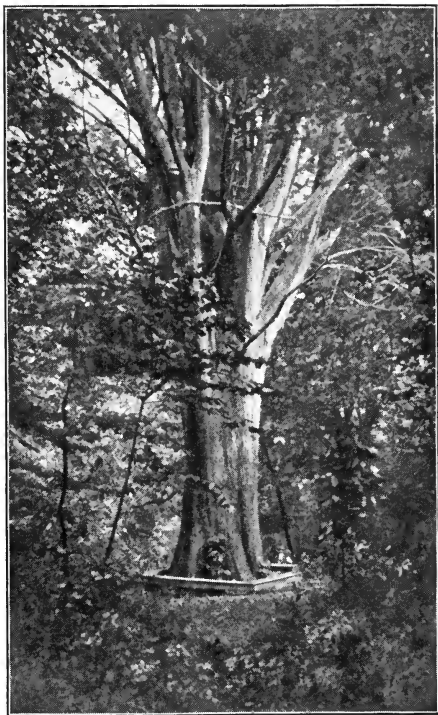
Soon his garden became famous throughout the colonies. The king of England heard of him, and asked him to send to England word of his explorations and samples of the plants found.

In 1769 a man from England visited him at his Philadelphia home. After looking in amazement at the five acres of garden, the visitor asked him how he learned to love botany. This was the answer:

One day I was very busy in holding my plow (for thou seest I am but a plowman), and being weary I ran under the shade of a tree to refresh myself. I cast my eye on a daisy. I plucked it mechanically, and viewed it with more curiosity than common country farmers are wont to do, and observed therein very many distinct parts — some perpendicular, some horizontal. "What a shame," said my mind, or something that inspired my mind, "that thou shouldst have

employed so many years in tilling the earth and destroying so many flowers and plants, without being acquainted with their structure and their uses." I returned to my team, but

this new desire did not quit my mind; I mentioned it to my wife, who greatly discouraged me. I thought about it continually—at supper, in bed, and wherever I went. At last I could not resist the impulse; for on the fourth day of the following week, I hired a man to plow for me, and went to Philadelphia. Though I knew not what book to call for, I told the bookseller my errand, who provided me with what he thought best, and a Latin grammar



THE CYPRESS IN BARTRAM'S GARDEN
AS IT WAS IN 1875

beside. Next I applied to a neighboring schoolmaster who, in three months, taught me Latin enough to understand Linnaeus, which I purchased afterward. Then I began to botanize all over my farm. In a little while I became

acquainted with every vegetable that grew in my neighborhood, and next ventured into Maryland. In proportion as I thought myself more learned, I proceeded forth and by a steady application of several years, I have acquired a pretty general knowledge of every tree and plant to be found in our continent. In process of time I was applied to from the old countries whither I every year send many collections.

Bartram's garden was one of the wonders of colonial days. There Washington and Franklin and Jefferson used to go for rest and refreshment, and there tens of thousands of others have had that intimate communion with nature which the proprietor of the garden made possible for them by his years of loving toil.

When he was dying, he feared that his garden would be laid waste by the British army, which was advancing from the Brandywine. But he did not live to see the soldiers. He died, September 22, 1777, before they reached Philadelphia. When the soldiers finally came and saw the garden, they passed it by, leaving it unharmed.

To-day the garden is a park belonging to the city of Philadelphia. Many of the trees have perished. One relic of the past still stands, the great trunk of a cypress planted about 1735. On one of his trips into Delaware the botanist procured the cypress slip, which he carried home in

his saddlebags. It grew to be one hundred and fifty feet high and twenty-seven feet in circumference. In 1899 it still bore a few live twigs. Now the dead trunk, surrounded by an iron railing to protect it from vandals, is all that is left.

Yet many of the trees and shrubs planted by the colonial botanist are still green. Above the house waves a jujube tree, planted in 1735, and over the arbor hangs a trumpet vine which was sent from North Carolina in 1749.

Sources. WILLIAM DARLINGTON. Memorials of John Bartram. Lindsay and Blackiston, Philadelphia, 1849.

John Bartram. Issued by the John Bartram Association, Philadelphia.

What should you think of paying a basket of wheat as the membership fee in a library? At one time this was the appointed fee for those who used the oldest library in America, the Library Company of Philadelphia. On the shelves of this library may be found many of the diaries and other volumes quoted in this book.

CHAPTER X

THE OLDEST LIBRARY IN AMERICA

One of the interesting things mentioned by Benjamin Franklin in his autobiography is a meeting of the Junto, a club of which he was a member. It was decided that the club should have a library, and each member was to bring a number of books for the purpose.

The plan did not work very well, and after a year Franklin proposed a subscription library instead. On July 1, 1731, one hundred members formed the first American subscription library.

The list of books ordered from London in 1732 would not attract many readers to-day. There was not one book that a child would care to read. The day of attractive books for children was yet far distant.

The volumes were taken to the home of one of the members in Pewter Platter Alley. Soon

afterwards this record was made in the minute book of the new library:

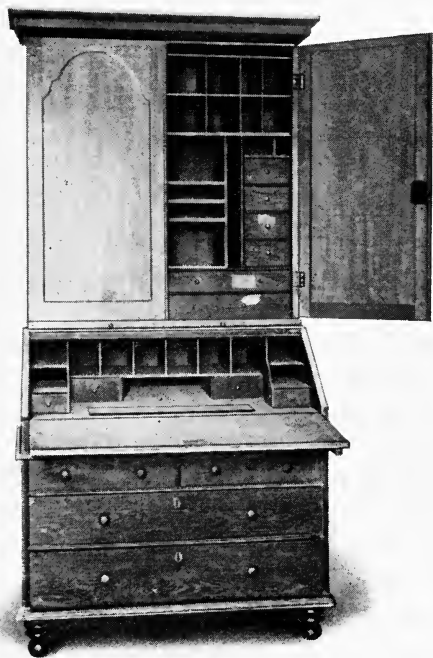
Louis Timothee was contracted with to be Librarian. The order was made that Mr. Timothee's term of office should be for three months, that he should receive for the use and care of the room and for his services "Three Pounds" lawful money certain, and such a further allowance as then after such time of experience shall by the parties here be thought and concluded to be a reasonable reward.

When Mr. Timothee's term expired, Benjamin Franklin became librarian for a like term and at the same salary.

On December 11, 1732, "B. Franklin was asked what his charge was for printing a catalogue . . . for each subscriber, and his answer was that he designed them for presents, and should make no charge for them."

In January, 1738, John Penn wrote to the Library Company offering to send "an air-pump, with some other things to shew the nature and power of the air." It was "ordered that B. Franklin get a frame and case made, with glass lights in the door, to receive and preserve the air-pump with its appendages, and to look ornamental in the Library room." This case still stands in the library, with the remains of the air pump in it, a rare specimen of the hand carving and woodwork of the period.

In 1740 the "books and air-pump" were removed to the "upper room of the westernmost office of the State House" (now known as Independence Hall). The monthly meetings of the di-



WILLIAM PENN'S DESK

rectors were held first at the home of the Widow Roberts, then, successively, with the Widow Breitnals, the Widow Pratt, and the Widow Biddle.

In 1773 the library was moved from the State House to quarters in Carpenter's Hall. A few months later, when Congress was in session in the State House, the

librarian was directed to permit the members to borrow books. In 1791 also this courtesy was shown to Congress, then meeting in the city, a letter of thanks for the service being sent by George Washington.

When the British were in Philadelphia officers borrowed the books, always leaving the required deposit.

In 1777, when the library's quarters were used by the British as a hospital, the secretary was ordered to insert this advertisement in the *Pennsylvania Gazette*:

The members of the Library Company of Philadelphia are hereby notified that books may be procured from the said Library by application at the house of the Librarian on the south side of Market Street, four doors below Fourth Street, between the hours of five and seven in the afternoon of every day, and leaving a signed note for such books as they may respectively want. The lower part of the Library being at present used as an infirmary for the sick soldiery, renders it inconvenient for the Librarian to attend at the Library Room as usual.

Two minutes entered in the record book during the war give hints of the poverty of the residents of the Quaker City:

NOVEMBER, 1778. The Directors taking into consideration the high prices of firewood, candles, etc., agreed that the Library be open during the winter months only upon Wednesday and Saturday from two till eight.

MAY 4, 1781. The Directors agree that thirty shillings, State money, be received in lieu of a basket of wheat, by which the annual payments were last year directed to be made.

In 1797 President Washington was invited to use the library, a specially bound catalogue of the books being presented to him for his use. In 1824 the free use of the library was tendered to General Lafayette.

To-day the library contains nearly two hundred and fifty thousand volumes. But more precious than the books are the souvenirs of the past. One of these is an oil painting some eight feet long, entitled "A South East Prospect of the City of Philadelphia, by Peter Cooper, painter." It is supposed to have been painted in 1720, and is interesting as showing the houses on the water front with the names of the owners. The picture was found in a secondhand dealer's shop in London and given to the library.

Source. GEORGE M. ABBOT. A Short History of the Library Company of Philadelphia. Compiled from the minutes.

For our knowledge of early days in the colonies we are not dependent altogether on the writings of men and women. Fortunately there have come down to us records made by boys and girls as well.

Esther Edwards of Northampton, Massachusetts, began her diary on her ninth birthday. Let her tell her own story.

CHAPTER XI

A ROMANCE OF COLONIAL DAYS

This is my ninth birthday, and Mrs. Edwards, my mother, has had me stitch these sundry sheets of paper into a book to make me a journal. Methinks, almost all this family keep journals; though they seldom show them. But Mrs. Edwards is to see mine, because she needs to know whether I improve in composing; also, whether I am learning to keep my heart with all diligence; in which we are all constrained to be engaged.

These lines, written under date of February 13, 1741, were the first entry in the journal of Esther Edwards, daughter of Mr. and Mrs. Jonathan Edwards, of Northampton, Massachusetts. Mr. Edwards was pastor of the village church.

Once, a little later, after her mother had examined her journal, Esther wrote this:

My mother says my journal thus far is rather stilted and mature for me; though everything in the family is

mature. I have a letter of my father's, written when he was younger than I am, which I shall transcribe, just to show where the present writer gets her stilts and maturity.

Esther's first experience of romance in real life came when David Brainerd, the famous missionary



BRAINERD PREACHING TO THE INDIANS

to the Indians, was expelled from Yale College because he had said of a tutor that he had no more religion than a chair. He soon found refuge in the Edwards home. Esther wrote of him:

He is likely to become a member of this family, it seems. Soon after coming to Northampton he displayed strong affinity for Jerusha, our sister of seventeen. Thus far, his

Indian missionary labors have been solitary. He thinks this a mistake. He has had no domestic attention, no home care, no one to hold him back from over-exertion. And he means now, should he ever recover, which I very much misdoubt, to take a female helpmate back with him. I am pretty sure this kind of love would never satisfy me. I believe he loves her more because she will make a good missionary than for any other reason. But little does the dear girl care.

The young missionary became more and more of an invalid, wearing himself out in his work. Jerusha cared for him tenderly. He died October 9, 1747; Jerusha Edwards followed him in four months, at the age of eighteen.

Now Esther was to take her place as the 'eldest daughter of the home. Though only fifteen, she was in many ways a woman.

In 1750 her father was driven from Northampton by people who did not believe in him. He took his family to Stockbridge, where he began work without salary among the Indians. Esther wrote of the life there:

This family is very busy making lace and embroidery, so as to replenish the household treasury. In Northampton, my honored father had purchased a valuable homestead, with land for fuel and pasturing, and had erected a commodious dwelling house. These had by our exercising the strictest economy all been paid for, before his removal.

Among the bitterest of our experiences, therefore, was to be sent roofless and homeless to a wilderness. But neither my honored mother, nor any of the children bated a jot of hope. We began at once the making and decoration of fans and other ornamental work, which we were assisted to dispose of in Boston, by our friends, the Princes, there. How narrow our circumstances were may be seen from the necessity put upon our father to use the margins of otherwise useless pamphlets and the backs of letters, on which to write his sermons and treatises.

Less than two years later Esther left her Massachusetts home to go to Newark, New Jersey, where she was to marry Reverend Aaron Burr, president of the College of New Jersey. She made the journey on horseback, her mother being her only companion. As she rode through the forest she sang the song she had herself composed as an expression of her happiness:

My love hath love that he sendeth me
 From the piney wilds of the Newark sea,
 From the piney wilds, where the Mayflow'r blows,
 And the princely Hudson seaward goes.
 And I have love that I waft to him,
 As I mount my steed for the Hudson's brim;
 As I mount my steed and speed to him.

It was in this home to which she went so gladly that Aaron Burr, who was to become vice president



ON THE WAY TO HER MARRIAGE

of the United States, was born. When he was two years old his mother wrote:

Aaron is a little dirty, noisy boy, very different from Sally almost in everything. He begins to talk a little, is very sly, mischievous, and has more sprightliness than Sally. I must say he is handsomer, but not so good-tempered. He is very resolute, and requires a good governor to bring him to terms.

Source. JAMES EAMES RANKIN (Editor). Esther Burr's Journal. Woodward and Lothrop, Washington, D.C.

"Do send a five-dollar bill by the post immediately!"

It was a Maine girl of the eighteenth century who sent this urgent request to her parents. She was ashamed to go into company without something the five dollars would buy. What was it? Her diary will tell.

CHAPTER XII

THE HEART OF AN EIGHTEENTH-CENTURY GIRL

Eliza Southgate lived in Scarborough, Maine, near the close of the eighteenth century. Her life is faithfully pictured for readers of to-day in her letters to friends and relatives.

These letters are full of lively descriptions of people and things. The young girl was a careful observer, and she had an entertaining way of telling what she saw. But far more interesting than these descriptive passages in her letters are the sentences and paragraphs which give a glimpse of the heart of the writer. She was not only a good friend; she was also a dutiful daughter who loved her parents and honored them.

When, at fourteen years of age, she was absent from home, attending a boarding school, she wrote to her father and mother, under date of May twenty-fifth, 1797:

I hope I am in some measure sensible of the great obligation I am under to you for the inexpressible kindness and attention which I have received from you, from the cradle to my present situation in school. Many have been your anxious cares for the welfare of me, your child, at every stage of my inexperienced life. In my infancy you nursed me and reared me up, my inclinations you have indulged, and my follies you have checked. You have liberally fed me with the bounty of your table, and from your instructive lips I have been admonished to virtue, morality and religion. The debt of gratitude I owe you is great, yet I hope to repay you by duly attending to your counsels and to my improvement in useful knowledge.

My thankful heart with grateful feelings beats,
 With filial duty I my parents greet.
 Your fostering care hath reared me from my birth,
 And been my guardians since I've been on earth.
 With love unequalled taught the surest way
 And checked my passions when they went astray.
 I wish and trust to glad declining years —
 Make each heart gay, each eye refrain from tears.
 When days are finished and when time shall cease,
 May you be wafted to eternal peace.

Again, a little later, she wrote thus to her mother:

With what pleasure did I receive your letter and hear the praises of an approving mother. It shall be my duty to please and make you happy.

Your affectionate and most dutiful daughter.



© Curtis & Cameron, Boston

A BELLE OF THE COLONIES

From a Copley Print

Her homesickness, usually so well concealed, found expression on one occasion, when she wrote:

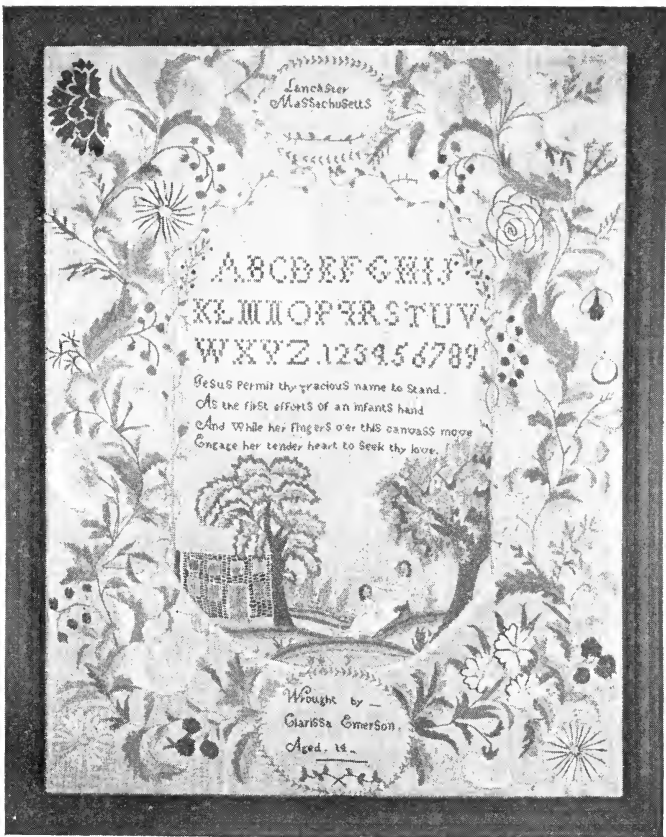
Never did I know the worth of good parents half so much as now I am far from them. I never missed home dainties so much, and above all things our cheese and butter, which we have very little of! But I am very contented.

She was so well content that she desired to remain at school longer than the term originally arranged for. Her request for an extension of time was put thus: "I should feel happy and very grateful if you thought proper to let me tarry."

The letter from her mother which gave the desired permission evidently spoke of the privation suffered in the continued loss of the daughter's presence, for Eliza's next message was:

You say that you will regret so long an absence; not more certainly than I shall. But having a strong desire to possess more useful knowledge than I at present do, I can dispense with the pleasure a little longer of beholding my friends, and I hope I shall be better prepared to meet my good parents, toward whom my heart overflows with gratitude.

Eliza was now fifteen, and was making good progress in her studies. She spoke of arithmetic as her chief study. At first she used a small textbook, and later reviewed the subject by preparing a manuscript arithmetic of her own. When completed this was bound and sent home.



A SAMPLER DONE BY CLARISSA EMERSON OF LANCASTER,
MASSACHUSETTS

After some months in the school she thanked her brother for his statement that she had improved in her writing. "I am glad of it," she wrote. "I hope I shall make as great progress in my other studies, and be an accomplished miss."

Here is a letter sent to her father:

I hope by the help of heaven never to cause shame or misery to attend the gray hairs of my parents . . . but on the contrary to glad your declining years with happiness, and that you may never have cause to rue the day that gave me existence.

After spending eighteen months at Medford, she was transferred to a school in Boston. From there she wrote to her father:

I learn geography and embroidery at present, and wish your permission to learn music. You may justly say, my best of fathers, that every letter of mine is one which is asking for something more. I only ask. If you refuse me, I know you do what you think best, and I am sure I ought not to complain, for you have never yet refused me anything that I have needed. My best of parents, how shall I repay you? You answer, "By your good behavior." Heaven grant that it may be such as may repay you.

She made mistakes, and once at least, she seriously grieved her parents by her misconduct. They wrote her of their sorrow. Here is her reply: "I see my errors, and if I can only hope they will

be no longer remembered by my parents, I shall again be happy."

At seventeen years of age she left school and was having a rather gay time among the young men of Boston. Changed surroundings suggested new wants, and again she sent a request home:

What do you think I am going to ask for? A wig! I must either cut my hair or wear one; I cannot dress it at all stylish. How much time it will save! — in one year we could save it in pins and paper, besides the trouble. At the Assembly I was quite ashamed of my head, for nobody has long hair. If you will consent to my having one, do send over a five-dollar bill by the post immediately after you receive this, for I am in hopes to have it by the next Assembly.

To her younger sister Octavia, who was, in her turn, away from home, studying music, she wrote:

My musical talents will be dim when compared with the luster of yours. Pooh, Eliza! You are not envious? No! I will excel in something else if not in music. Oh, nonsense! This spirit of emulation in families is destructive of concord and harmony. At least I will endeavor to excel you in sisterly affection. If you outshine me in accomplishments, will it not be all in the family? Certainly!

In a letter to this same sister the seventeen-year-old woman of the world gave the following sage counsel:

I think, my dear sister, you ought to improve every moment of your time while in school. In November terminates

the period of your instruction — the last you will receive, perhaps ever — only what you may gain by observation. You will never cease to learn, I hope. The world is a volume of instruction, which will afford you continual employment. Peruse it with attention and candor, and you will never think the time thus employed misspent.

At the age of nineteen Eliza went on a journey to Saratoga Springs. On the way she met the young man who later became her husband. As always, she remembered her duty to her father and mother. In writing of his intention to seek her parents' consent to their marriage, she added:

And now, my dearest mother, I submit myself wholly to the wishes of my father, and you, convinced that my happiness is your warmest wish, and to promote it has ever been your duty. I have referred him wholly to you, and you, my dearest parents, must decide.

The parents decided favorably, and Eliza Southgate was married. Six years the young people spent in their own home in New York. Then Eliza died. But her influence survives in these letters, which preach a sermon whose text is the fifth commandment.

Sources. E. S. BOWNE. *A Girl's Life Eighty Years Ago*. Charles Scribner's Sons, New York.

LEONARD B. CHAPMAN. *Monograph on the Southgate Family*. Hubbard W. Bryant, Portland, Maine.

There was no lack of work for the boys of the early days. Some worked on land; others worked with their fathers on the sea. Fishing smacks and coasting vessels lured many of them from home, but the ships which most attracted them were those of the famous whaling fleet.

CHAPTER XIII

WHALE-FISHING IN COLONIAL DAYS

In these days of kerosene oil and gas and electric lights it is difficult to understand how important the whale was to the early settlers. Indeed, even before their day the Indians were accustomed to hunt the whale in bark canoes, frail craft, held together with tough sinews and with the cracks stopped up with spruce gum and fat.

Right whales were especially difficult to handle, and white fishermen feared them, but the Indians bravely attempted to hunt them whenever they saw them spout. Puny were the implements of the sea whalers, but what they lacked in implements they made up in courage, ingenuity, and perseverance.

To the Indians the settlers on the coast were indebted for their first instructions in the art of whaling, as for so many other things. For years

Indians and white men were often members of the same whaling crew. The Indians were glad to accept in payment unmarketable parts of the whale.

Among the inhabitants of Long Island whaling was a regular business. John R. Spears says that "in March, 1644, the settlers divided themselves into four wards of eleven persons, each to attend to



THE CHASE

the drift whales cast ashore, and it was voted that, when such a whale was found, 'every inhabitant, with his child or servant that is above sixteen years of age,' should share equally in the products, save only as two men who were appointed to cut up the carcass were to have two shares each."

Of course every man was eager to share in the rewards of fishing, but there were found those who were always ready to shirk their share of the work.

That everybody might take part, the arrangements were well ordered from start to finish. The boats used were owned in partnership by all in the village. These were always ready for launching when word was given that a whale had been sighted. A lookout was on duty every day and all day, that no opportunity might be lost.

Since a person standing on the low-lying shore of Long Island was unable to see far, it was the custom to plant near the water tall masts, similar to telegraph poles, which the lookout could



"CUTTING IN" A WHALE

climb by means of cleats. Perched on a rough seat at the top the climber could look far to sea. When complaint was made that the position was too exposed in severe winter weather, huts were built on the beach, inclosed on three sides, but with the seaward side open.

Of course the work of the lookout was not pleasant, and there was much difficulty in persuading men to take their turn. Especially when the weather was bad, volunteers were slow to present themselves. In one village the difficulty was solved when, at a town meeting held November 6, 1651, "it was ordered that Goodman Mulford shall call out ye town by succession to loke for Whale." The summons was as imperative as the call of a witness in court.

Whenever the appointed watcher announced a whale in the offing, there was great excitement. Boats were manned, the strongest men embarking, while Indian helpers were called for. These Indians were such good workers that they were paid fifty per cent more than their white neighbors, and were thus kept in good humor. But they earned every cent they received.

At first those who sought the whale kept near the shore, but in 1712 the first deep-sea voyage was made by a captain who thought that, if he could accomplish so much by going a little way to sea, surely the results would be much greater if he went farther out. When his logic proved correct, other captains followed him, and it was not long before the white wings of the American whaling fleet were seen on nearly every sea.

Discoveries of importance were made when voyages extended into the Arctic Ocean, over to the coast of Africa, and south to the coast of Patagonia. No wonder Edmund Burke, in the course of a speech in Parliament, said:

No sea but is vexed by their fisheries, no climate that is not a witness to their toils. Neither the perseverance of Holland, nor the activity of France, nor the dexterous and firm sagacity of English enterprise, ever carried this most perilous mode of hardy industry to the extent to which it has been pushed by this recent people; a people who are still, as it were, but in the gristle, and not yet hardened into the bone of manhood.

The extent of the whaling industry, even before the days of the Revolution, may be seen by a study of a Massachusetts report, which told of the voyages of the years 1771 to 1775. More than three hundred vessels were fitted out each year in the ports of that state alone, and more than four thousand men were employed as sailors. Nearly fifty thousand barrels of oil were taken each year during this period, the best of this bringing \$18.75 a barrel. Whalebone sold for fifteen cents a pound. The fifty or sixty whalers owned in other states considerably increased the total of oil and bone, though, somehow, the Massachusetts captains were usually more successful than those who hailed from ports in neighboring states.

At this period more whaling vessels cleared from Nantucket than from any other port. A picture of the part played by the people of Nantucket Island in the whaling industry is taken from the report of a committee of Parliament in 1775:

This extraordinary people, amounting to between five and six thousand in number, nine tenths of whom are Quakers,

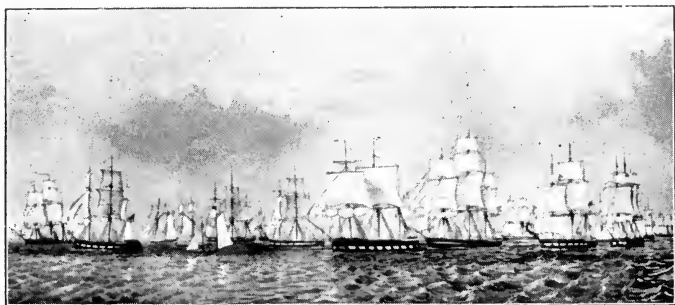


ABANDONED WHALING SHIPS IN THE ICE

inhabit a barren island fifteen miles long by three broad, the products of which are scarcely capable of maintaining twenty families. From the only harbor which this sterile island contains, without natural products of any kind, the inhabitants, by an astonishing industry, keep 140 vessels in constant employment. Of these eight are employed in the importation of provisions for the island, and the rest in the whale fishery; which, with an invincible perseverance and courage, they have extended from the frozen regions of the

pole to the coasts of Africa, to the Brazils, and even to the Falkland Islands; some of those fishing voyages continuing for twelve months.

One of the unfortunate results of the war which followed so soon after these words were written was the practical annihilation of the Nantucket industry. One hundred and thirty-four of the vessels owned on the island were captured by the British.



THE WHALING FLEET

Many of the captains and men were forced to serve in Great Britain's whaling ships; for that country, attracted by the success of Nantucket men, and determined to build up a successful fishery, decided that none but Nantucket sailors should be employed. Of course the New Englanders were unwilling to serve the enemy even in a commercial way, but when the choice was presented of accepting this service or enlisting on war vessels to fight against

their countrymen, many of them surrendered. At one time sixteen Nantucket men were commanders of British whalers.

But at the close of the war it was Nantucket that had the honor of sending the first ship flying the Stars and Stripes to an English port. The interest created by her appearance may be seen from this report in a London paper:

The ship Bedford, Captain Mooers, belonging to Massachusetts, arrived in the Downs on the 3d of February, & was reported at the Custom-House the 6th instant. She was not allowed regular entry until some consultation had taken place between the commissioners and the customs & the lords of council, on account of the many acts of Parliament yet in force against the rebels in America. She is loaded with 487 butts of whale oil; is American built; manned wholly by American seamen; wears the rebel colors & belongs to the Island of Nantucket in Massachusetts.

With the increase in tonnage of whaling vessels Nantucket's supremacy became a thing of the past. The bar at the mouth of the harbor would not allow the passage of large vessels when fully laden. Gradually New Bedford forged ahead. In 1857 she sent out ninety-five vessels, while Nantucket sent but four.

Source. JOHN R. SPEARS. The Story of the New England Whalers. The Macmillan Company, New York. The illustrations printed in connection with this chapter are reproduced from Mr. Spears' volume, by the courtesy of the publishers.

While adventurers roamed the sea in quest of whales, other hardy men tramped through the forests and over the plains, hunting and trapping, or trading for furs with the Indians. Zenas Leonard, one of these pioneer traders, returned with glowing tales of the West and its possibilities.

CHAPTER XIV

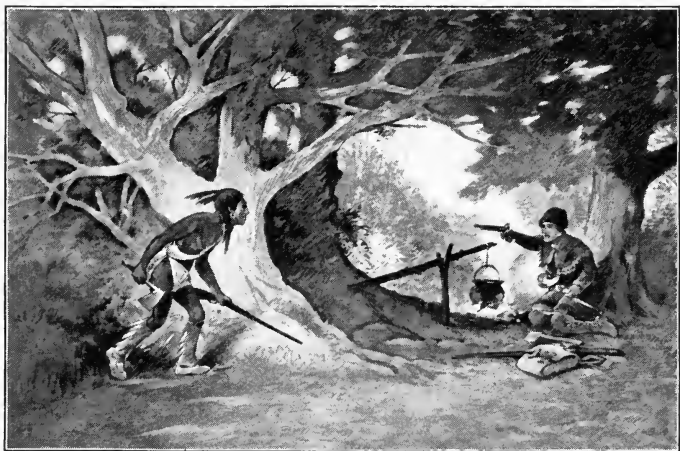
ADVENTURES OF AN EARLY FUR TRADER

In the early days of the nineteenth century the great forests were full of animals whose fur was valuable. Many men made their living by trapping. They would take long journeys into the wilderness, and when they returned they would usually have rich store of furs, as well as wonderful stories of their adventures.

Zenas Leonard was one of these trappers. In 1831 he started on a five years' hunting and trapping journey to the Rocky Mountains. All this time he kept a diary, which later was printed and distributed among his friends.

When he left St. Louis he was clerk of a company of seventy men. At the beginning of the first winter the company pitched camp in a grove of cottonwoods, hoping to be able to keep their horses alive on the bark. When snow covered

the ground and it was impossible to find other food, the bark was stripped from the trees, but the horses refused to touch it. Then the trappers discovered, too late, that the camp had been made among bitter cottonwoods instead of the sweet cottonwoods. The horses perished of starvation.



INTERRUPTED

Later a few men in the party made an overland trip to "Santafee," as they called it. They were delayed by snowstorms until their food supply was exhausted. They were almost blind from the wind and the snow. The deerskin lining of their trousers was used to make snowshoes, parts of the beaver skins that they had been carrying to

market were used for food, and they pushed bravely on. They grew weaker and weaker. Two animals were seen at last, but the men were too blind to tell what they were. The guns had been used as canes to support the travelers in the soft snow, and were not in order for effective work for some time. Finally, a shot was fired, but the aim was poor. The animals did not take fright, but remained long enough for a second shot to be fired. This brought down a buffalo. Nine days had passed since anything but dried beaver skins had been eaten. In the strength due to this food the adventurers continued their journey and at last they reached Santa Fe.

This was only a beginning of dangers. At one time the men were surrounded by two hundred Indians, and death seemed sure. Again Leonard had an encounter with an Indian whom he met in the forest. Before he escaped from the savage, he received a wound that troubled him for many weeks.

Soon after this trying experience he wrote in his journal:

Some of us had labored hard ; we had at times endured the worst suffering from hunger and fatigue, living amid the terrors of a wilderness filled with savages and no less dangerous beasts of prey for two long years, and now left with

nothing but an old greasy blanket, a rifle, and a few loads of ammunition, some thousands of miles from our homes. We had expected that to win a fortune in the fur trade we only required a little perseverance and industry. Such had been the life we had led, and such the reward.

At the end of two years the party succeeded in reaching San Francisco Bay. "The idea of being at the end of the Far West," Leonard wrote, "inspired the heart of every member of our company with a patriotic feeling for our country's honor. We felt as if all our previous hardships and privations would be adequately compensated if we would be spared to return in safety to the homes of our kindred and have it to say that we had stood upon the extreme end of the great West."

Leonard was happy as he looked out on the Pacific. As he stood on the shore he wrote a prophecy:

Most of this vast waste of territory belongs to the republic of the United States. Will the government ever succeed in civilizing the thousands of savages now roaming over these plains, and her hardy, free-born population here plant their homes, build their towns and cities, and say, "Here shall the arts and sciences of civilization take root and flourish"? Yes, here, even in this remote part of the great West, before many years, will these hills and valleys be greeted with the enlivening sound of the workman's hammer, and the merry whistle of the plowboy. We have

good reason to suppose that the territory *west* of the mountains will some day be equally as important to the nation as that on the *east*.

Soon the return trip was begun. The Pennsylvania home was reached in 1839. The net profits to Leonard of the five years of privation were eleven hundred dollars.

Source. W. F. EAGNER (Editor). Adventures of Zenas Leonard, Fur Trader and Trapper (reprinted from the original). The Burrows Brothers Company, Cleveland, Ohio.

Travelers like Zenas Leonard gave the first clear idea about the West. For generations the region beyond the Mississippi was pictured in all sorts of fantastic ways. Think of a great lake across the Rocky Mountains! Think of California as an island! This was the belief of many, until explorers found their way to distant regions.

CHAPTER XV

WHEN THE WEST WAS NEW

A glance at a map of about the year 1700 gives an idea of the erroneous notions then entertained concerning the American continent. The map is called "A new map of North America, according to the newest observations, by H. Moll, geographer."

On this map the shores of the Gulf of Mexico are rather carefully outlined, as are also the islands of the Caribbean Sea. This is not strange, when it is remembered that many of the earliest explorers made repeated voyages to these regions. The peninsula of Florida, however, is given a peculiar shape, while the name "Florida" is made to include all the territory from Virginia to Texas, and north to the Illinois River. The Great Lakes are rather vague in outline, though Lake Erie is given in good proportion, as is also

Lake Michigan. Lake Erie, however, is made to extend southward nearly as far as Virginia. Lake Huron is set down as being three or four times as large as Lake Michigan, while Lake Superior, called "Upper Lake," is about twice as large as Lake Huron. The distance from Lake Superior to the nearest point on Hudson's Bay is only about two hundred miles. The St. Lawrence River, which is made to take its rise near the arctic circle, flows southeast, widening to form the Great Lakes, then continues its way to the northeast, as does the real St. Lawrence.

Of course the country west of the "Missisuri" River, as it was called, was a vast unknown region, but the maker of the map was unwilling to own his ignorance. So he put down a few rivers, made no mention of mountains, and contented himself with writing the words "Many Villages," where Missouri is now. But the crowning feature of the great Western plain was the River "Longue," in reality a lake, which stretched for five hundred miles straight across the Rocky Mountain country. Islands were set down at random in this "river," and the inscription was added, "Many Villages on the Islands."

The Gulf of California is represented as a strait, stretching from Mexico on the south to what is

called the "Mozeemlek Country" on the north, where Oregon is now placed. California is thus an island, its shape being much like that of the state as it is to-day. The upper part of the island is called "New Albion." To the north of the Mozeemlek Country is a vast region on which is written the honest confession, "Unknown Country."

The wonder is, not that so little was known of the continent west of the Mississippi, but that so much was known that was even approximately correct. The knowledge had been gained from various travelers, few of whom knew anything of surveying or of scientific map-making. Some of them had gone out on fur-trading expeditions, though some were traveling for the avowed purpose of learning about the country.

It was not until the famous expedition of Lewis and Clark, sent by President Jefferson to explore the Western country, that definite ideas began to displace the hazy notions of earlier map-makers.

In 1803 Lewis and Clark, hardy young men, started west. In their party were about thirty others, many of whom had lived among the Indians. Their equipment was peculiar. They carried three boats—a keel boat fifty-five feet long, which could travel in three feet of water when loaded with twenty-two oarsmen, and two small flat-bottomed

boats. The sails of these boats could be used as tents at night. As the explorers rowed up the Missouri, two horses were led along the bank to be at hand when they should be needed for hunting.



© Brown Brothers

LEWIS AND CLARK ON THE UPPER MISSOURI

The boats were loaded with a strange assortment of goods. In addition to the clothing, tools, firearms, and food, there were coats richly laced with gilt braid, red trousers, medals, flags, knives, colored handkerchiefs, paints, small looking-glasses,

beads, and other trinkets to win the favor of the red men. President Jefferson urged the explorers to treat the Indians as friends and to assure them that the United States would protect them.

The journey was comparatively easy down the Ohio, up the Mississippi, and to the sources of the Missouri. But when, in the summer of 1805, the Rocky Mountains were crossed, and the travelers tried to find their way over the Bitter Root Mountains, their real troubles began. "They must make their way over the sharp ridges, through terrific mountain defiles choked with fallen limbs and masses of rock *débris*," Schafer says, in describing the difficulties of the way. "For nearly a month they threaded dark forests, over steep hills, rocks and fallen trees; made their way along dangerous cliffs; crossed raging torrents, whose icy waters chilled both men and animals. Sometimes they encountered storms of sleet and snow, again the weather was very hot and oppressive. Most of them became sick, and all were much reduced in strength. Food was so scanty that they were compelled to kill and eat some of the travel-worn horses" which they had secured from friendly Shoshone Indians.

After spending a hard winter at the mouth of the Columbia, Lewis and Clark turned back by

the way they had come. But first they told the Indians why they had sought out this land. Then they gave some of the natives copies of a note which the recipients were asked to hand to any white men who might visit them. A rough map of the journey was included on the sheet with the note. One of these papers reached Philadelphia in 1807, by way of Canton, China. It had been given by a faithful Indian to the captain of a trading vessel.

Other explorers followed in the steps of these hardy pioneers, but it was a generation before the tide of immigration set in to what was once known as the Mozeemlek Country.

Source. SCHAFER. History of the Pacific Northwest. The Macmillan Company, New York.

There were those who did not think that the Western country was worth anything, but, fortunately, there were those who thought otherwise. So the territory of Louisiana was bought from France in 1803. At once the government began to investigate the possibilities of the new land, and made some wonderful discoveries.

CHAPTER XVI

WHEN LOUISIANA WAS BOUGHT FROM FRANCE

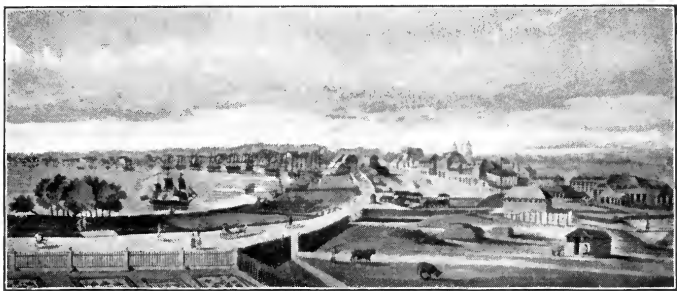
It is not easy to picture the popular ignorance concerning the South and West of a century ago. Perhaps there is no better indication of this than the description of the Louisiana country, written in 1803 for the state department at Washington, to give information of the vast territory bought from France.

In the absence of a map of this region, an attempt was made to describe the boundaries, and to mention the chief divisions. Among these were mentioned Mobile, New Orleans, Ste. Genevieve, New Bourbon, Catahanose, Fourche, and Galvez-Town.

It was stated that many of these divisions were "separated from each other by immense and trackless deserts, having no communication with each other by land, except now and then a solitary

instance of its being attempted by hunters, who have to swim rivers, expose themselves to the inclemency of the weather, and carry their provisions on their backs for a time."

The principal settlements in Louisiana were on the Mississippi, "which begins to be cultivated about twenty leagues from the sea, where the



NEW ORLEANS IN 1803

From a painting in the Louisiana State Museum

plantations are yet thin, and owned by the poorest people." Farther north were better plantations for a few miles. Along the river there was no space between cultivated fields, although the fringe of tilled land extended but a little distance from the shore.

Special mention was made of Baton Rouge, which was considered remarkable as being "the first place where the high land is contiguous to the river." Attention was called to two creeks

which entered the river near this point, whose banks "have the best soil and the greatest number of good cotton plantations of any part of Louisiana, and are allowed to be the garden of it."

Along the river, from the sea to Pointe Coupee, fifty leagues from New Orleans, "three-fourths of the population and seven-eighths of the riches of Louisiana" were included.

A statement concerning the land on the west bank of the river is interesting, in view of the developments of more modern days:

From the settlement of Pointe Coupee on the Mississippi, to Cape Girardeau, above the mouth of the Ohio, there is no land on the west side that is not overflowed in the spring to the distance of eight or ten leagues from the river, with from two to twelve feet of water, except a small spot near New Madrid, so that in the whole extent there is no possibility of forming a considerable settlement contiguous to the river on that side. The eastern bank has in this respect a decided advantage over the western, as there are in it many situations which effectually command the river.

At the mouth of the Arkansas River were a few families who were "more attached to the Indian trade than to cultivation." It was added that "there is no settlement from the place to New Madrid, which is itself inconsiderable. Ascending the river, you come to Cape Girardeau,

Ste. Genevieve and St. Louis, where, though the inhabitants are numerous, they raise little for exportation, and content themselves with trading with the Indians and working a few lead mines." A note was made of the fact that "lead is to be had with ease, and in such quantities as to supply all Europe, if the population were sufficient to work the numerous mines to be found within two or three feet from the surface in various parts of the country."

After telling of the wonderful silver and copper mines farther north, this paragraph was devoted to a more ordinary product:

The salt works are also pretty numerous; some belong to individuals, others to the public. They already yield an article of general exportation. The usual price per bushel is one hundred and fifty cents in cash at the works. This price will be still lower as soon as the manufacture of the salt is assumed by government, or patronized by men who have large capital to employ in the business. One extraordinary fact relative to salt must not be omitted. There exists about one thousand miles up the Missouri, and not far from that river a *Salt Mountain!* The existence of such a mountain might well be questioned were it not for the testimony of several respectable and enterprising traders who have visited it, and who have exhibited several bushels of the salt to the curiosity of the people of St. Louis, where some of it still remains. The mountain is said to be one hundred and eighty miles long, and forty-five in width, composed of solid rock salt, without any trees or even

shrubs on it. Salt springs are very numerous below the surface of the mountain, and they flow through the fissures and cavities of it.

Returning to the lower part of the Louisiana territory, the writer of this early treatise on the



THE CABILDO, THE SPANISH COURTHOUSE IN NEW ORLEANS

Now used as a museum

greatest real-estate purchase ever made went on to speak of the possibilities of the cultivation of sugar cane. On one section of the river the lands on both banks, for a distance of ninety miles, and about three quarters of a mile deep, were considered adapted to sugar cultivation. No other part

of the territory was thought to be fit for the purpose. On this territory annually twenty-five thousand hogsheads of sugar could be produced, as well as twelve thousand puncheons of rum. This seemed to the writer to be the limit of cane production, although enterprising young planters stated that one third or even one half of the arable land within certain limits could be planted in cane. But at the very outside estimate it seemed that not more than fifty thousand hogsheads of sugar could be counted on.

The early historian would be startled if he could take a glimpse to-day of the rich lands along the valley of the lower Mississippi, on both sides of the river, and should note the enormous product of the plantations, and the wonderful development of the towns and cities.

Source. An Account of Louisiana, 1803. Old South Leaflets, Vol. 5. An abstract of documents in the office of the Department of State and of the Treasury.

The purchase of the Louisiana Territory encouraged immigration to the West, and before many years had passed, southern Illinois and southern Indiana were tolerably well settled, especially in the river valleys.

"The woods around us are inhabited by Indians, bears, wolves, deer, opossums, and raccoons" was the message one of those early settlers in the valley of the Wabash sent to friends in England. Yet he urged them to consider following him to that wild country and helping in the worth-while struggle of the pioneer.

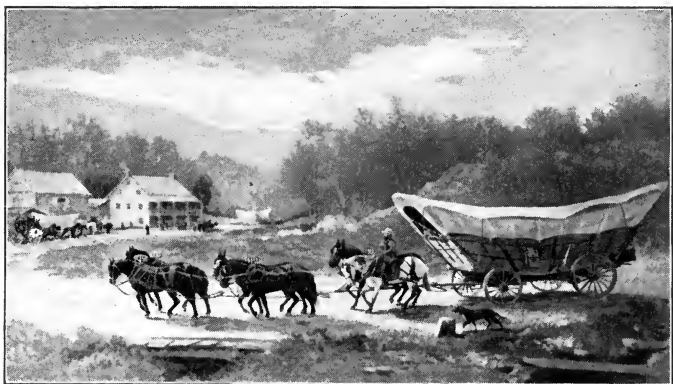
CHAPTER XVII

AN ENGLISH IMMIGRANT'S JOURNEY TO ILLINOIS TERRITORY

In 1817 a company of English immigrants landed in Virginia, on the way to English Prairie, in southern Illinois. To one of the party, Elias Pym Fordham, was given charge of the farming implements and household furniture, which he accompanied as far as Cincinnati. His route was by water from Norfolk to Baltimore, thence overland to Pittsburgh and down the Ohio River to Cincinnati. There he rejoined the other members of the party who had traveled to Pittsburgh in a phaëton and a light wagon, and thence had gone on horseback across southern Ohio to Cincinnati.

During his journey, and after reaching his destination, the young man wrote letters to friends

in England in which he told of his experiences and his impressions of the new country. That these letters were written under difficulties is apparent from the preface, dated in 1818, to the published collection of the letters. He says, "Sometimes the writer was surrounded by the noisy



ON THE ROAD IN EARLY DAYS. THE CONESTOGA WAGON

Reproduced by permission of the Philadelphia Commercial Museum

inhabitants of a smoky cabin, in his blanket tent, or in the bar room or no less public dormitory of a tavern."

From Baltimore to Pittsburgh, a distance of two hundred and forty miles, the farming implements and furniture were transported by wagons. "The mail is six days going this distance, the waggons sixteen," he wrote. "They travel at 12, 15 or 20

miles per day. They avoid, as much as possible, the trampled roads, and scramble over hills and mountains, where English waggons would be dashed to pieces. The waggoners requested that we keep with them on the mountains; for the combined strength of several men is necessary to keep the waggons from upsetting in descending the cliffs."

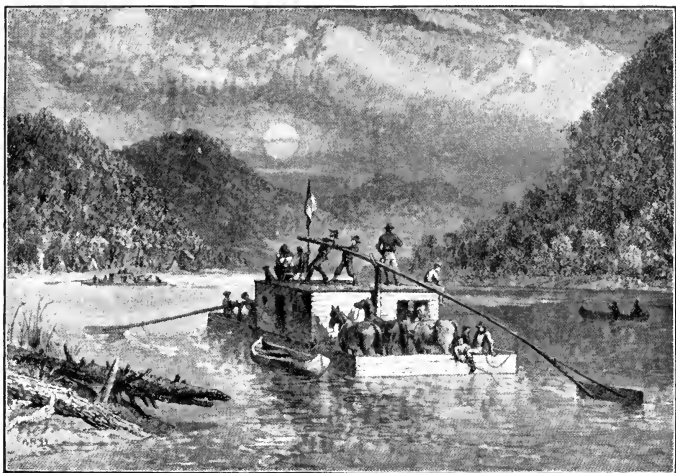
At Pittsburgh the goods in his care were loaded on two flatboats, curious structures for floating downstream which aroused his curiosity. He noted with interest, "Not a 100 nails are used in building one, but they are stuck together by wooden pins."

Progress on the river was slow, for the current was only three miles an hour. But many of the long hours were passed in a skiff, in which he rowed to the shore, where he scrambled over the rocks and searched for curious plants or squirrels. Sometimes the skiff would strike a log and he would be thrown into the water, but this merely added to the interest of the journey.

At length Cincinnati was reached, at the end of seven weeks after leaving the James River. From Cincinnati he traveled with his friends.

The journey across Indiana was made "on horseback, each person furnished with an upper and under blanket, and saddle bags, and two pack-horses with extra luggage and bedding."

At night the party stopped in roadside taverns, or with farmers, most of whom had a room for travelers. The country traversed was "one vast forest, intersected by a few Blaze roads,¹ and two or three open roads. There are a few new towns



PIONEERS ON A FLATBOAT

and some settlements on and near the state roads and river. These are generally from one to three years old."

¹ The traveler gave in his diary this explanation of Blaze [blazed] roads: "Blaze roads are merely lines, marked through the forests by slices of bark, like a blaze, being chopped off the trees. When a road is surveyed, the trees are cut down, and the stumps are left to rot in the ground. The trees on each side are notched at convenient distances, to distinguish the State roads from private ones to plantations, and this is then called an open road."

At Princeton, Indiana, a house was visited and Mr. Fordham remained there, with some of his companions, for six months, while others went on to English Prairie. The town was then three years old, and contained three small brick houses, four or five frame dwellings, and seven or eight houses built of logs, besides a dozen cabins. The author notes the fact that "the trees have not yet had time to rot away in the streets, which were therefore dangerous to walk in after dark."

Not all the inhabitants of the region were desirable. Mr. Fordham said, "We hear the howling of the wolves every evening, as they are driven back from the farmyards by the dogs, who flock together to repel the invaders."

From Princeton the traveler made many journeys of exploration through the surrounding country. When he mounted for these trips he wore "a broad-brimmed straw hat, long trousers and moccasins, shot pouch and powder horn slung from a belt, rifle at his back in a sling, tomahawk in a holster at his saddlebow, a pair of saddlebags stuffed with shorts and gingerbread, and a Boat-cloak and Scotch tent buckled behind the saddle."

Finally he went to English Prairie. From this place he sent a letter saying that the town had "no population to withstand an incursion of Indians,

if a war had been excited by the violent and cruel hunters," and that therefore the houses "were planned to be easily converted into forts."

Before long so many settlers were coming to the country that the author of the letters thought he saw a chance to make money. He wrote:

I am laying off a new town to be called Albion. It will consist of 8 streets and a public square. Most likely it will be the County Town, and if so, there will be a Court house and a gaol, as well as a Market house and a Chapel, which last will be built whether it be the seat of justice or not.

The desire of the town builder was gratified; since 1821 Albion has been the county seat of Edwards County.

Source. F. A. OGG. Fordham's Personal Narrative, 1817, 1818. The Arthur H. Clark Company, Cleveland, Ohio.

The Illinois prairies did not attract the immigrants so soon as the regions farther south, but when the tide began to turn northward, development was rapid.

The diary of one of the early settlers in the vicinity of Chicago gives a vivid picture of the experiences of the pioneers.

CHAPTER XVIII

GLIMPSES OF WESTERN PIONEER LIFE

In 1836 A. H. Conant, a New Englander, turned his face to the Mississippi Valley. After an overland trip from Vermont to Buffalo, he went by the Lakes to Chicago, and thence to the Fox River country, the Dupage and Bureau rivers, and finally to the banks of the Des Plaines, about twenty miles northwest of Chicago. There a farm was located. On this farm and in the neighborhood occurred such events as the following recorded in the diary of the traveler:

1836

- Jan. 1 — Attended to the survey of my claim.
2 — Drew rails.
3 — Sunday. Wrote poetry.
4 — Made shelves and split rails.
5 — Went to Chicago with a load of potatoes.
6 — Sold my potatoes for 75 cents a bushel.

- 7 — Cut apples, worked at my house, husked corn.
- 8 — Attended a meeting of settlers for securing to each man his present claim.
- 9 — Cut rail timber.
- 10 — Sunday. Went to Chicago.

Other entries show that time was taken for self-development, and for duties to others:

Attended a meeting called to get the mail route changed from Chicago to Green Bay. . . . Attended arbitration between father and Rufus Saule; decided in favor of Rufus, and let him have some potatoes. . . . Read Mason on "Self-Knowledge." . . . Read the "Latin Grammar." . . . Brought in a deer. . . . Read the "Life of Josephine." . . . Got out wood for chairs. . . . Made a coffin for Mrs. Dougherty, and helped to bury her. . . . Made and bottomed chairs. . . . Mrs. Hoard and Betsy Kilsey arrived. . . . Planted corn, and prepared for the wedding. . . . Married Betsy Kilsey.

Just that bit to tell of the arrival from the East of his promised wife, the preparations for the wedding, crowded into a day with farm work, and the wedding itself!

The next entry tells just as briefly of attempts to fit up the pioneer home: "Made a table, and borrowed six bushels of potatoes, to be paid back with interest in the fall."

Other entries were:

Wife is 18 to-day. Made a few articles of furniture. . . . Read "Paley's Natural Theology." . . . Made a churn. . . .

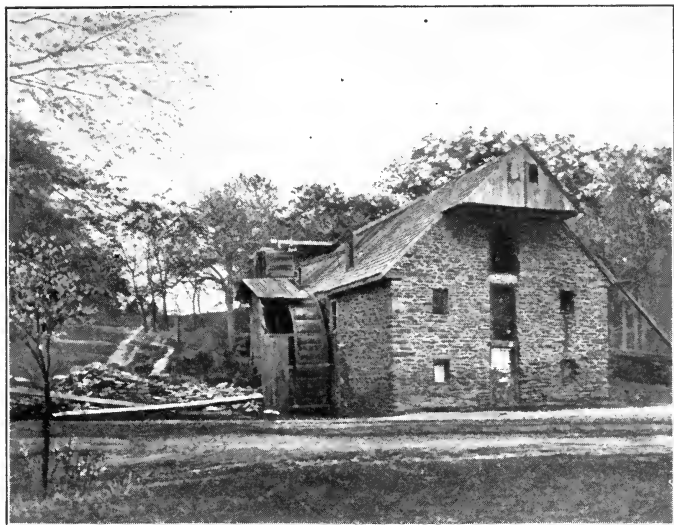
Heard big wolves howling. . . . Hunted deer. . . . Worked at shoemaking. . . . Made a coffin for H. Dougherty. . . . Plastered my house. . . . Dressed pig and calves torn by wolves. . . . Dug a well. Killed a badger. . . . Corn half destroyed by blackbirds. . . . Set out shade trees. . . . Read Cowper. Took up a bee tree to hive for honey. . . . Hunted deer.

At length the farmer made up his mind to complete his education. So he studied hard; but he was so busy on the farm that the most favorable days for study were those when he was not well enough to work. During that time the following entries were made:

Made a ditching machine. . . . Studied algebra. . . . Made a chest of drawers. . . . Hunted a panther. . . . Went to a bridge raising. . . . Hewed timber for a barn. . . . Made a wagon. . . . Made a cheese press. . . . Unwell, and so studied algebra. . . . Made a sun dial. . . . Sister Harriet dead. . . . Made a coffin for Sister Harriet. . . . Went to the mill. . . . Read the "History of Rome." . . . Hunted deer. . . . Unwell, so wrote temperance address. . . . Hunted panther. . . . Sat on jury. . . . Helped to make post office. . . . Examined the school teacher. . . . Wrote a sermon. . . . Made soap. . . . Boiled sugar. . . . Started for New England, to attend school.

In 1841 the young pioneer went back to the prairies, where he toiled on the farm and among the people who needed his services, preaching here

and there, and finally becoming pastor in Geneva and Rockford. In one of his fields he was promised "\$125 a year for one sermon each Sunday." His biographer chose extracts from his diaries which showed the manner of his life in Geneva, "while



A PIONEER GRISTMILL

he held, as it were, the pioneer's axe in one hand and the Bible in the other, doing a man's work with both." Here are a few of these extracts:

Wrote a sermon, and made a door. . . . Raised the house frame. . . . Cut and drew ice, and made curtain rods. . . . Made a plan of a sermon on the Prodigal Son, a pair of

quilting frames, and an argument at the lyceum against capital punishment. . . . Read Neander. . . . Made a chair. . . . Worked on a sermon. . . . Drew straw. Commenced a sermon, and worked in the woods. . . . Doctored sick horse. . . . Cut wood. . . . Read Neander. Horse died. . . . Began a sermon. Planted potatoes. . . . Built an icehouse. . . . Helped wife to wash. . . . Made benches for the school. . . . Finished sermon, and haying. . . . Set out plum trees. . . . Planned a sermon. Made a gravel walk. . . . Wrote a sermon. Papered my study. . . . Wrote at a sermon. . . . Planted seventy peach trees. . . . Wrote at a sermon. . . . Made a bedstead for the cobbler. . . . Went to Elgin with father, to build a cupola for the church. . . . Worked at cupola. . . . Raised cupola. . . . Hung the bell. . . . Preached in the church. . . . Read Macaulay. Made candles.

One entry calls for an explanation. The bed for the cobbler was not made for money. The cobbler was a poor cripple. He could make a meager living if he had a little house in which he could live and work. So the pioneer built a place for him entirely with his own hands, and furnished it in the same way. He secured for the old cripple all the wood he wanted, too, for the winter, sawed, split, and piled it for him, and drove the wolf once for all from the door, the result being the happiest cobbler in Kane County.

Source. ROBERT COLLYER. Augustus Conant. The Beacon Press, Boston.

Settlement of one portion of the Louisiana country was slow — and all because of a raft, more than one hundred miles long, which covered the waters of a river from the mouth far toward its source. Until that raft was destroyed, settlement was impossible. The story of the conquest of the raft is worth reading.

CHAPTER XIX

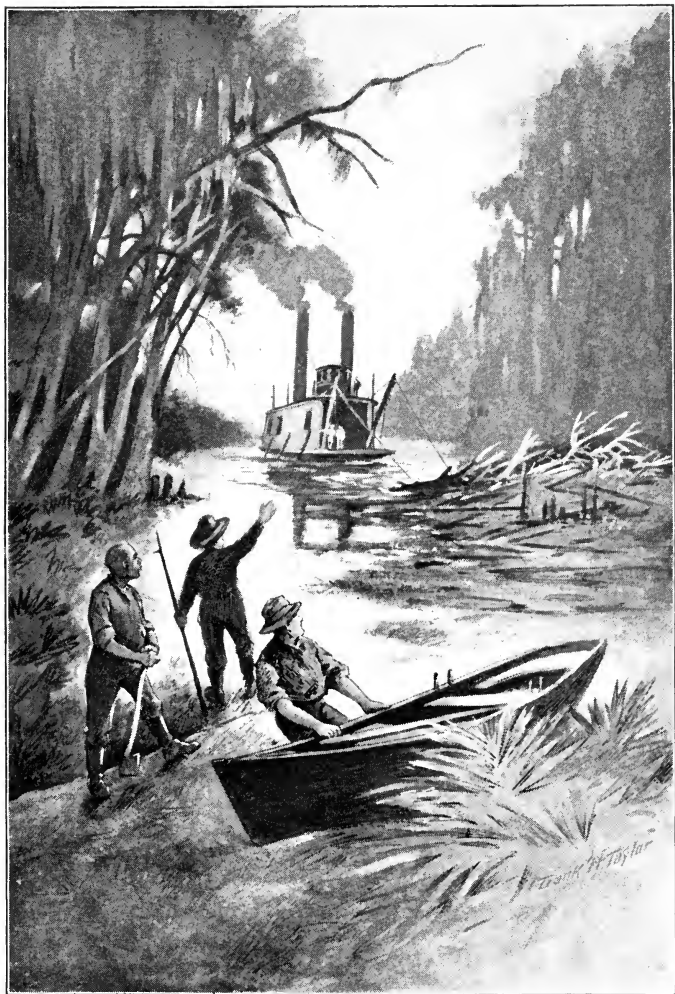
THE RED RIVER RAFT

Stories of floating islands have been told from the days of Pliny the Younger, who wrote of a number of these in the Lacus Vademonis, near Rome. They were covered with reeds and rushes, and the sheep grazing upon the borders of the lake passed upon them to feed, and were often floated away from the shore. Driftwood accumulating on the surface of the water formed the foundation of these islands; deposits of earth and sand on the logs made a soil; seeds were dropped by birds and carried by the winds, and after scores of years the "islands" were complete. Authorities declare that such islands, formed in the large rivers and carried out to sea, "have been the means of distributing species of the larger animals among the islands of the South Pacific, and of introducing vegetable life to new localities."

It is not generally known that the largest and most remarkable formation of this kind was in our own land, in the Red River, a tributary of the Mississippi. This river, more than seventeen hundred miles long, was practically closed to navigation by a timber raft of enormous extent. Early explorers were unable to ascend the stream, and later navigators found it necessary to make use of a series of bayous and creeks to reach the headwaters.

The raft has been described as "an accumulation of trees, logs, and drift, extending over the surface of the river from bank to bank, and for miles in extent, so close and compact as to be walked over without wetting the feet. Broom straw, willow, and other small bushes are growing out of the rich, alluvial earth that covers the logs, so that it presents the appearance of an old worn-out field that has been abandoned to grow up again."

It has been conjectured that the formation of this raft began nearly five centuries ago. The cause, it is agreed, was that the waters of the Mississippi, being high from a freshet when the Red River was low, backed up and made still water at the mouth. Driftwood floating downstream was stopped in this still water; further accumulations made a



TEARING AWAY THE RAFT

solid mass from shore to shore. When the Mississippi fell to the level of the Red River, the mass became jammed. The banks of the stream being heavily wooded, vast quantities of timber were added, and the raft grew at the rate of about a mile and a half a year.

As the years passed, the oldest timber rotted, and sections of the raft broke away and floated down to the Gulf of Mexico. This process of decay was not sufficiently rapid to keep pace with the additions, and the raft increased in length, while gradually receding upstream. This recession was so slow that one man said, "If we would wait about two hundred years, it would give us navigation up to some eight hundred miles above the mouth."

But it has not been the American custom to wait patiently through centuries for the easy accomplishment of an important work. It was realized that there was too much at stake to falter because the difficulties were great. The whole Red River country was malarial, because of the decaying timber. As the raft grew, settlers were driven back, not only by the malaria, but by the waters, which overflowed the prairies and made of a fertile country a lake from twenty to thirty miles long. Houses were deserted, and the development of the region was retarded.

When the government engineers, to whom was committed the task of removing the obstruction, made their preliminary survey in 1833, the raft was found to be one hundred and twenty-eight miles long, its lower end being about four hundred miles above the mouth of the stream. Operations were begun at once, under the direction of Captain Shreve. At first the work was not difficult. The lower part of the raft was in such a state of decay, and yielded so readily to the grapplings of the steamer that about one hundred miles of it was pulled away the first season. Good navigation was thus established up to Coates' Bluff, now Shreveport, so named for the leader of the expedition.

The last thirty miles of the obstruction presented great difficulties, and the completion of the task was much delayed. The timber was solid. Axes and saws were used, while nitroglycerin and dynamite facilitated the work. The explosives were handled with great unwillingness by the engineers, who were not accustomed to them. Captain Tennyson, in an official report to his superior, wrote, "I have been uneasy sometimes about dynamite, probably a foolish whim, but put it off my boat in December, and refused to use it."

The raft figures in public documents for many years. Appropriation after appropriation was made.

Millions of dollars were expended. Finally, in 1873, a navigable channel was completed. At once the level of water above was lowered fifteen feet.

Since 1873 the work has been continued by snag boats, which patrol the river and keep it clear of obstructions. The banks are stripped of all timber which might fall into the stream and help to remake the raft.

When the work of clearing was only partially completed, a person who knew the country and its possibilities wrote, "The greatness of the enterprise warrants any trouble in reason it may give for a few years to have a stream with so much of future promise kept open and in order." The prophecy was made that the fertile lands of the valley "would be inhabited by a dense population, and its waters freighted with the produce of its unlimited fine range for cattle and hogs, and also with cotton, wheat, and other grains."

Although the building of railways is responsible for the partial inaccuracy of this forecast, yet the prophecy has been justified by events. The Red River country is settled by thousands who could never have made their homes there but for the dauntless spirit of American pioneers.

Sources. Government reports.

De Bow's Review. New Orleans, 1855.

The next increase in territory of the United States, following the Louisiana Purchase, came when the republic of Texas sought and gained admission to the Union.

An observant traveler made it possible for us to know what life in the republic was like.

CHAPTER XX

A DAY IN THE REPUBLIC OF TEXAS

In 1830 the Mexican government, fearing the encroachments of foreigners in the northern part of the province of Coahuila, known as Texas, forbade further immigration. So the Americans, who were there in large numbers, were instrumental in having a request presented to Santa Anna, president of Mexico, that Texas be organized as a state in the Mexican Union.

The request was refused, and dissatisfaction was so great that Texas revolted in 1835. Sam Houston, chosen general of the forces in rebellion, succeeded in achieving the independence of his people at the battle of San Jacinto, in April, 1836, when Santa Anna was captured. In October, 1836, General Houston was elected the first president of the republic, which successfully maintained its existence until 1845, when it was, at its own urgent

and repeated request, admitted by resolution of Congress as one of the United States.

A visit to the frontier state was made in May, 1837, by John James Audubon, the naturalist, in the course of his rambles in search of birds and other specimens in natural history. The account



GENERAL SAM HOUSTON

of his stay in Galveston, and in Houston, the capital, as given by him in his diary, is not only interesting reading, but is invaluable as furnishing one of the few records of life in the Lone-Star Republic in its first months of struggle.

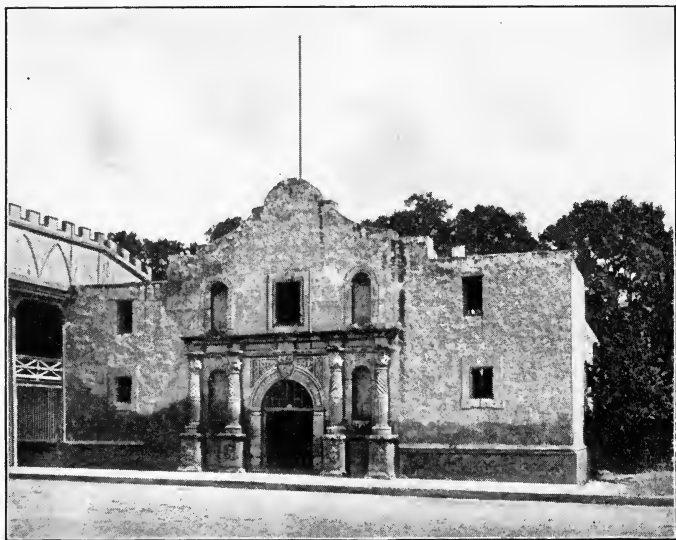
Audubon approached Galveston by sea and thus saw many reminders of the war so recently ended. "We went ashore at Galveston," he wrote. "The only objects of interest we saw were the Mexican prisoners; they are used as slaves — made to carry wood and water, and cut grass for the horses, and such work; it is said that some are made to draw the plow. We passed through the troops and observed the miserable condition of the

whole concern — huts made of grass, and a few sticks or sods cut into square pieces composed the buildings of the poor Mexican prisoners, who, half-clad and half-naked, strolled about in a state of apparent inactivity. . . . The soldiers' huts are placed in irregular rows, and at unequal distances; a dirty blanket or a coarse rug hangs over the entrance in place of a door. No windows were seen, except in one or two cabins occupied by Texas officers and soldiers."

The journey to Houston was made in a rain storm, so that the first view of the capital was not prepossessing. "The Buffalo Bayou had risen about six feet, and the neighboring prairies were partly covered with water; there was a wild and desolate look cast on the surrounding scenery. We had already passed two little girls encamped on the bank of the bayou, under cover of a few clapboards, cooking a scanty meal; shanties, car-goes of hogsheads, barrels, etc., were spread about the landing; and Indians, drunk and hallooing, were stumbling about in the mud in every direction. These poor beings had come here to enter into a treaty proposed by the whites.

"We walked toward the President's house, accompanied by the Secretary of the Navy, and as soon as we rose above the bank we saw before us

a level of far-extending prairie, destitute of timber, and of rather poor soil. Houses half finished and most of them without roofs, tents, and a liberty pole, with the capitol, were all exhibited to our



THE ALAMO, SAN ANTONIO, TEXAS

Here, for three weeks, a small body of Texans resisted a Mexican force ten times their number

view at once. We approached the President's mansion, wading through water above ankles. This abode of President Houston is a small log house, consisting of two rooms, and a passage through, after the Southern fashion. The moment we

stepped over the threshold, on the right side of the passage, we found ourselves ushered into what in other countries would be called the ante-chamber; the ground floor, however, was muddy and filthy, a large fire was burning, a small table covered with papers and writing materials was in the center, camp beds and trunks were strewn about the room. We were at once presented to several members of the cabinet, some of whom bore the stamp of men of intellectual ability.

"We amused ourselves by walking to the capitol, which was yet without a roof, and the floors, benches, and tables of both houses of Congress were as well saturated with water as our clothes had been in the morning.

"We first caught sight of President Houston as he walked from one of the grog shops, where he had been to prevent the sale of ardent spirits. He was on the way to his house, and wore a large gray coarse hat. He was upward of six feet tall, and strong in proportion. We reached his abode before him, but he soon came, and we were presented to His Excellency. He was dressed in a fancy velvet coat, and trousers trimmed with broad, gold lace; around his neck was tied a cravat, somewhat in the style of Seventy-six. He at once removed from the ante-room to his private chamber,

which, by the way, was not much cleaner than the former.

"We returned to our boat through a *mêlée* of Indians and blackguards of all sorts. In giving a look back we once more noted a number of horses rambling about the grounds, or tied beneath the few trees that have been spared by the ax. We also saw a liberty pole, erected on the anniversary of the battle of San Jacinto, on the 21st of last April and were informed that a brave tar, who rigged the Texan flag on that occasion, had been personally rewarded by President Houston with a town lot, a doubloon, and the privilege of keeping a ferry across the Buffalo Bayou."

It would be interesting to learn what the sailor did with his town lot, which he probably valued less than the doubloon or the ferry privilege. The city has developed so rapidly that the present owner must hold it at a good figure; for the Lone-Star State has had a marvelous growth since the days of Audubon and Houston. Instead of barren plains, there are extensive fields of cotton; instead of an unfinished capitol, one of the most imposing edifices in the country; instead of a log cabin for the executive mansion, a governor's house that is a credit to the state. Everywhere are signs of thrift and prosperity.

What a debt is owed to the pioneers who endured the hardships and were willing to undergo difficulties that their successors might enjoy peace and prosperity!

Source. MRS. AUDUBON (Editor). Life of J. J. Audubon. G. P. Putnam's Sons, New York.

Seven days from Philadelphia to Pittsburgh. This was the time made by the first stages. They succeeded in covering, according to the difficulty of the road, from two to four miles an hour. At night the passengers were glad to rest at one of the numerous roadside taverns.

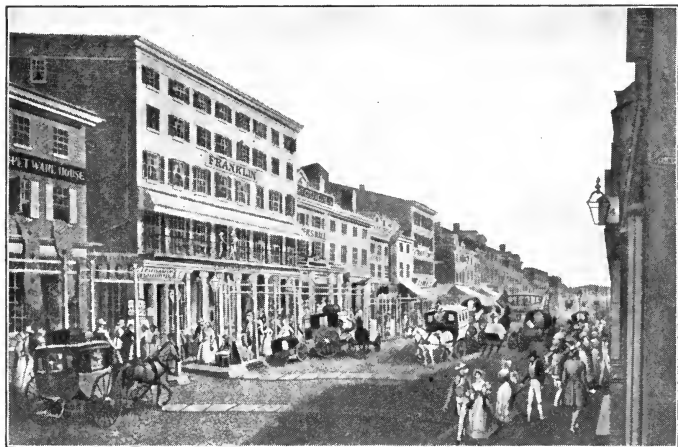
CHAPTER XXI

ON AN OLD STAGE ROAD

In an old diary, kept by some one whose name is not known, there is a curious entry which tells something of the difficulties encountered by a traveler on the Lancaster Pike in Pennsylvania, before the days of railroads. In telling of "a trip for pleasure" made over the old road from Lancaster to Philadelphia, he wrote:

Left Lancaster . . . in good spirits, but alas, a sad accident had like to have turned our mirth into mourning, for W. driving careless and being happily engaged with the lady he had the pleasure of riding with, and not mindful enough of his charge, drove against a large stump which stood in the way, by which the chair was overturned and the lady thrown out to a considerable distance, but happily received no hurt. About 8 o'clock arrived at Douglass' where supped and rested all night. The supper was pretty tolerable, beds indifferent, being short of sheets for the beds, the woman was good enough to let W. have a tablecloth in lieu of one.

In 1789 a family party took passage on a stage of a later line, hoping for a speedy passage from Philadelphia to Lancaster. Everything was all right until they overtook a husband and wife who had been traveling in a chair until the driver refused to take them further. Room was made



AT THE PHILADELPHIA TERMINUS

for the wife in the stage; the husband walked alongside. The further incidents of the journey were related by one of the party in a letter to friends. The road was so rough, and the load was so heavy, that the axle soon cracked, and the stage dropped to the road. Fortunately nobody was injured, so the party extricated themselves

and "footed it Indian fashion to the nearest inn," two miles distant. After eating dinner they persuaded a countryman to take them on the next stage of the journey. "His team proved to be a country wagon without springs or cover, with no seats other than bundles of rye straw." However, all agreed that the wagon was better than walking. Finally, after twelve weary hours, the party succeeded in reaching Downey's.

It was not till 1804 that a regular stage line to Philadelphia was operated over the Lancaster Pike. As this was the great highway to the West, the road had been improved in order that the vehicles of all sorts which used it might find it passable. The first newspaper announcement of the new stage line was quaint:

PHILADELPHIA & PITTSBURGH MAIL STAGES

A contract being made with the Postmaster General of the United States for the carrying of the mail to and from Philadelphia and Pittsburgh, in stage wagons, a line of stages will be in operation on the first of July next, on same route, which line will start from John Tomlinson's Spread Eagle, Market street, No. 285, Philadelphia, and from Thomas Forries, the Fountain Inn, Water street, Pittsburgh: and perform the same route in seven days from the above places. Passengers must pay \$20.00 each, with the privilege of twenty pounds of baggage, all above that

weight in baggage sent by above line, to pay at the rate of \$12.00 per hundred pounds, if the packages are of such dimensions as to be admissible to the conveyance . . .

Printed cards will be distributed, and may be had at the proprietors' different stagehouses, giving a full detail of the distance and time of arrival at the several towns through which the line shall pass.

N. B. Printers who shall think the above establishment a public benefit will please give the same a place in their respective papers a few times.

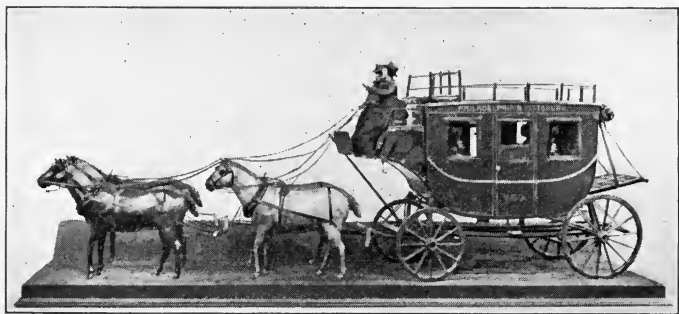
PHILADELPHIA, JUNE 13, 1804

The first trip was not made until July 4. At eight o'clock in the morning the stage was drawn up at the starting point, "the four prancing horses with red, white and blue ribbons," according to our historian.

Long before the starting time the mail was in the "boot," the straps drawn tight, the booked passengers in their seats, while as a last precaution an extra keg of tar was slung to the hind axle, the lynchpin examined and the dustproof covers fastened on the hubs. Then . . . the driver and the armed guard took their places on the box, the lines tightened, the whip cracked, and the pioneer mail stage to the West left the office among the cheers of the assembled multitude.

Before long another stage line was established, and residents along the road learned to watch eagerly for the races between the rivals.

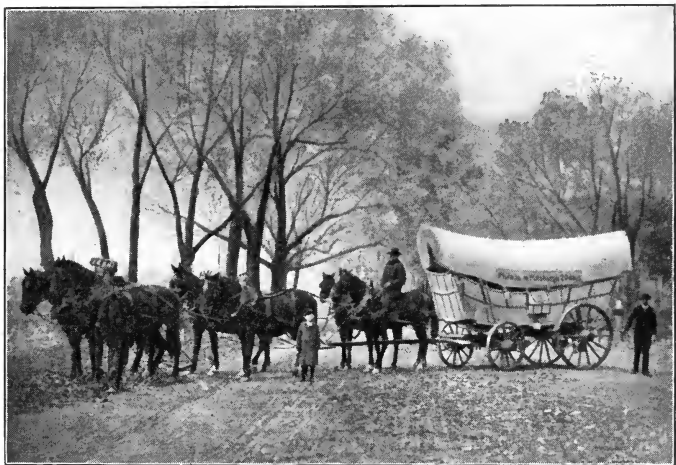
The demand for "accommodation stages," which would stop to pick up a passenger at any point, became so great that this was made a regular feature of the service. The fare for way passengers was fixed at six cents a mile. Express passengers used the through coaches, and rejoiced that the fare had been reduced to \$18.50, because of the large increase in travel between the cities.



MODEL OF PHILADELPHIA AND PITTSBURGH STAGECOACH

By 1823 there were eleven lines of stages running daily on the eastern section of the road. These were known as Berwick, Downingtown, Harrisburg Coaches, Harrisburg Stage, Lancaster Accommodation, Lancaster Coaches, Lancaster and Pittsburgh Mail, Mifflin and Lewiston via Harrisburg, Philadelphia and Pittsburgh via York, Pittsburgh via Harrisburg, and Philadelphia and West Chester.

But coaches were not the only vehicles on the busy road. At about the close of the first quarter of the century "there was hardly a moment during the twenty-four hours when there was not some travel. . . . It was a frequent sight to see long lines of Conestoga wagons going toward the



CONESTOGA WAGON. "PHILADELPHIA TO PITTSBURGH 20 DAYS"

city loaded with the products of the West, or going in the opposite direction freighted with the productions of eastern mills or foreign merchandise; their wagons were usually drawn by fine stout teams, each horse having on its collar a set of bells consisting of different tones, which made very singular music as the team trudged along

at the rate of about four miles an hour. Emigrants could also frequently be seen on the way, generally in companies for mutual assistance, going with their families and worldly possessions towards the new West."

Source. JULIUS H. SACHSE. The Wayside Inns of the Lancaster Roadside. Published by the author, Philadelphia.

A journey to the West was a great undertaking in the early years of the nineteenth century. Think of advancing only ten or twelve miles in a day! Frequently progress was even slower than this. Sometimes, when roads were especially bad, it was necessary to walk all day long.

CHAPTER XXII

A PIONEER TRAVELER ON THE ROAD

In 1810 Margaret Dwight, a niece of Timothy Dwight, then president of Yale College, decided to go from New Haven, Connecticut, to Warren, Ohio. She did not think of the trip as a pleasure jaunt, for at that day there could have been little pleasure in a journey of six hundred miles. But her parents were dead, and she was to make her home with cousins in the frontier town. Fortunately she could join a small party of Ohio people who were returning home. She kept a journal in which she wrote every night the story of the day's events. This is now one of the treasures of a granddaughter.

Soon after leaving New Haven Miss Dwight met a woman who asked her destination. "You bant going to New Connecticut?" was the astonished comment when the traveler replied to her

question. "Why, what a long journey! Do you ever expect to get there? They say there's wild Indians there."

Progress over the rough roads of New Jersey was slow. At times only ten or twelve miles were made in a day. Once eight miles was the total advance in three days. But for the toll roads, many of which were kept in fair condition, it would not have been possible to go so far. Many nights were spent in taverns where the accommodations provided were so unpleasant that the travelers were eager to start on their way very early in the morning.

The signboards on the inns amused the young traveler. She told of some of these to her friend:

I saw one in N. J. with Thos. Jeff'n's head and shoulders and his name above it—to-day I saw Gen. G. Washington—his name underneath—Gen. Putnam riding down the steps at Horseneck—one sign was merely three little kegs hanging down one after the other. They have the sun rising, setting, and a full moon, a new moon, the moon and seven stars around her, the lion and unicorn fighting, etc., and everything else ever seen or heard of.

The last day's ride in northern New Jersey was thus described:

We crossed the longest hills, and the worst road I ever saw—two or three times, after riding a little distance on

the turnpike, we found it fenced across, and were obliged to turn into a wood where it was almost impossible to proceed — large trees were across, not the road, for there was none, but the only place we could possibly ride. It appeared to me, we had come to an end of the habitable globe — but all these difficulties were at last surmounted, and we reached the Delaware. The bridge over it is elegant, I think — it is covered and has sixteen windows each side.



CROSSING THE ALLEGHENIES

At the end of a hard day on Pennsylvania roads the party came to a tavern, but they were denied accommodations. They were told of a log hut across the road, built for "movers" like themselves, "that the landlord need not be bothered with them." They wished to go in search of better

accommodations, but, as their horses were tired, they decided to make the best of the hut. "We have a good fire," the journal explained, "a long, dirty table, a few boards nailed up for a closet, a dozen long boards in one side and as many barrels in the other, two benches to sit on, two bottomless chairs, and a floor containing dirt enough to plant potatoes. . . . The man says he has been so bothered with movers that he has taken down his sign, for he does not need his tavern to live. If we had a mind to stay, we might, but if we chose to go on he had no objections."

On the last day before beginning the crossing of the Alleghenies the weary travelers came to an inn where they hoped to have a good rest, in preparation for the next day's exertions. "We were never so disappointed," Miss Dwight wrote. "We were put in an old garret that had holes in the roof big enough to crawl through—our bed was on the floor, harder it appear'd to me, than boards could be—and dirty as possible—a dirty feather bed our only covering."

The mountains were crossed on foot. At first the writer of the journal thought it was fun to climb mountains, but when she had walked up hill and down for several days she changed her mind. Once she wrote: "I was so lame and so

tir'd that for an hour I did not know but I must sit down and die — I could not ride — the road was so bad, it was worse than walking." Once she told of "large stones and deep mud-holes every step of the way," adding, "We were obliged to walk as much as we possibly could, as the horses could hardly stir the wagon, the mud was so deep and the stones so large."

After experience with such roads as this, she said she understood at last why so few of the many emigrants to Ohio ever returned to the East. It was not because the new country was so good, but because the roads were so bad.

She expressed wonder at the number of those who were enduring the privations of the way. "From what I have seen and heard, I think the State of Ohio will be well fill'd before winter. Wagons without number every day go on. One went on containing forty people — we almost every day see them with 18 or 20 — one stopt here to-night with 21."

At last the journey was completed, though it required six weeks instead of the four weeks for which plans had been made. Miss Dwight had said good-by to her friends in New Haven on October 19, and it was December 1 when she reached Warren.

Miss Dwight's shoes were worn to shreds by the long walks over the mountains and along the lowlands, and her clothing was threadbare. She declared she would not undertake the return trip till "the new turnpike" was completed.

Source. MAX FERRAND (Editor). A Journey to Ohio in 1810, as recorded in the Journal of Margaret Dwight. Yale Historical Manuscripts, Yale University Press.

Always there were some who felt that it was useless to talk of colonizing the West because of the extreme difficulty of traveling ; but always there were others who urged that settlers could and would find their way to the broad lands in the new country. One of the most ardent of these was George Washington. He dreamed of a day when the journey to the West would be comparatively easy. The story of the Patowmack Canal tells how he tried to make his dream come true, in the face of difficulties that to many seemed insurmountable.

CHAPTER XXIII

GEORGE WASHINGTON, CANAL BUILDER

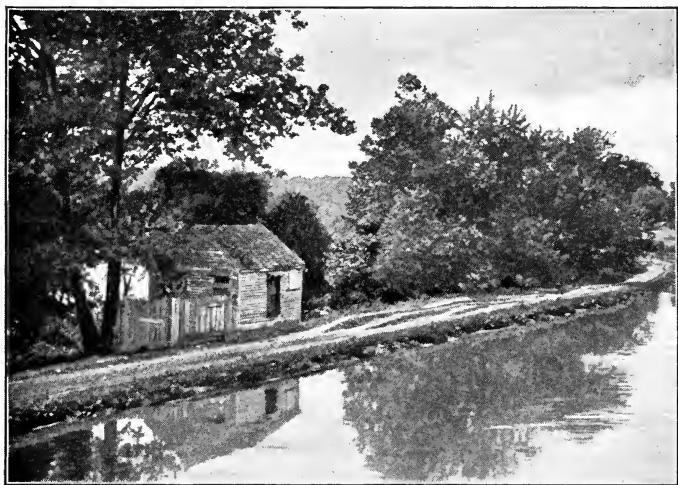
During the closing years of the eighteenth century and the opening years of the nineteenth century, the states of Virginia and Maryland took a prominent part in planning for the colonization of the great West. And it was largely due to George Washington, Virginia's greatest son, that plans to this end were made and carried out.

Even before the treaty of peace with Great Britain was signed, Washington was busying himself with plans for the development of the country. Once he wrote to the Marquis de Lafayette:

I have it in contemplation to make a tour thro' all the Eastern States, thence into Canada, thence up the St. Lawrence and thro' the lakes to Detroit, thence to Lake Michigan by land or water, thence thro' the Western Country, by the

river Illinois to the river Mississippi ; and down the same to New Orleans, thence into Georgia by the way of Pensacola, and then thro' the two Carolinas home. A great tour this, you will say.

Although Washington was not able to take this tour, he did make several shorter journeys



© Harris and Ewing, Washington

ON THE OLD PATOWMACK CANAL

which opened his eyes more than ever to the opportunities for developing water communication. He wrote to a friend:

I could not help taking a more contemplative and extensive view of the vast inland navigation of these United States, from maps and the information of others ; and could not but be struck with the immense diffusion and importance

of it, and with the goodness of that Providence, which has dealt his favors to us with so profuse a hand. Would to God we may have wisdom enough to improve them.

But Washington was not one of those whose eyes are so fixed on the distant chances that he



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WITHIN SIGHT OF WASHINGTON

was blinded to those near at hand. When he returned to his Virginia home, he began to think of the Potomac, and the facilities it would offer, if improved, for reaching the Ohio by means of a single portage, and so the great West.

A number of men met and talked of this scheme. They found that one great difficulty in their way

was the lack of a thorough understanding between Maryland and Virginia as to the regulation of navigation on the river. This understanding was brought about in 1785 by the Mount Vernon compact. As ratified by the state legislatures, it has been held by historians to be the origin of the call for the constitutional convention of 1787 in Philadelphia.

One of the first steps taken to put into effect the action of the legislatures was the insertion of an advertisement in the *Maryland Gazette* in 1785:

PATOWMACK CANAL!

By virtue of an act of the last General Assembly of Maryland . . . notice is hereby given that the laudable subscriptions so essentially necessary to accomplish a work fraught with such unusual advantages is now opened at Annapolis.

On May 17, 1785, in Alexandria, the Patowmack Company was organized, Washington being the chairman of the meeting held for the purpose. In a paper read before the Columbia Historical Society of Washington, Mrs. Corra Bacon-Foster said of this meeting:

And thus the first incorporation of a company for the improvement of our inland waterways was accomplished; its successors have been many, but none have ventured into

unknown difficulties and perplexities with greater courage or higher motives; their aims were to benefit the remote settler, to safeguard the Union and incidentally to plan a remunerative investment.

Work was begun immediately. Before many months engineers were busy at Great Falls. That those engaged on this early project had their troubles with laborers may be seen from a report of the treasurer of the Patowmack Company:

Great Falls potowmack July 3d 1786. Sir We have Been much Imposed upon the last Two weeks in the powder way (we had our Blowers, One Run off the other Blown up) we therefore was Obliged to have two new hands put to Blowing and there was much attention given to them least Axedents should happen yet they used the powder Rather too Extravagant, But that was not all they have certainly stolen a Considerable Quantity as we have not more by us than will last until tomorrow noon. Our hole troop is Such Villians that we must for the future give the powder into Charge of a person appointed for that purpose to measure it to them on the ground by a Charger.—I hope you will have it in your power to send us powder here Immediately. . . . please to send 1 lb. Salt Petre with the powder, we think we Can make matches with it that will Save powder.

At Great Falls the Virginia Legislature let the trustees lay off a town to be called Matildaville. For fifty years the name was to be seen on

Virginia maps, though the site cannot now be accurately determined.

In December, 1801, the locks at Great Falls were completed. In February, 1802, they were opened for business, and for twenty-eight years they were in use. The volume of trade and the re-



GEORGE WASHINGTON'S COACH

ceipts from tolls were large. Many visitors from far and near came to see this greatest American engineering achievement of the time.

All went so well that the company grew ambitious and began the improvement of the

Shenandoah, the Monocacy, and the Antietam. Then difficulties began, and the Patowmack Company soon fell on evil days. Lotteries were resorted to for the raising of funds, and there were disputes and lawsuits about the drawings. Debts hindered the progress of the work. The demand for the improvement of the river continued, and the use of the canals completed became larger year by

year, but the Company was not able to meet the claims upon it.

Then came the end. In 1828 the Chesapeake and Ohio Canal Company took over the property of the Patowmack Company, and continued development according to their own plans.

The coming of the railroad made the completion of the work unnecessary. The canals and locks were abandoned. To-day the visitor to Great Falls can see the masonry of the great locks, overgrown by trees. These locks are so stanch that one is compelled to admire the thoroughness and skill of those early workers.

One other reminder of the past is to be seen at Great Falls, a bronze tablet in honor of George Washington, the first officer of the Patowmack Company.

Source. MRS. CORRA BACON-FOSTER. Early Chapters in the Development of the Patomac Route to the West. Columbia Historical Society, Washington, D. C.

George Washington had his successors who dreamed, as he did, of canals that would make easy the way to the West. Travel by the waterways they built was slow, but it was so sure that for twenty years the packet boats on some of the canals were popular means of transportation.

CHAPTER XXIV

WHEN THE CANAL WAS IN ITS GLORY

The pioneers rejoiced when they could make use of the rivers, for it was much easier to travel by water than by the miserable roads of the day. Yet rivers did not always flow in the desired direction.

What was to be done? The question was asked and answered by far-seeing men who wanted to help in the development of the country, or who wanted to make money, or both. They would dig artificial rivers. They would follow the example of George Washington by building canals as he had built the Potomac Canal.

The first experiments in canal building were so successful that before many years the East was gridironed by a series of canals. New York and Pennsylvania were leaders in the construction. The Erie Canal, from Albany to Buffalo, was authorized in 1817, and was finished in 1825.

The next year Pennsylvania began her system of artificial waterways. In 1825 Ohio began her first great canal, and in 1832 Indiana made her initial experiment.

The Erie Canal was the most successful of these waterways. It offered the easiest method of transportation to those who wished to go to northern Ohio, for when the first stage of the journey ended at Buffalo they were able to take passage on the fairly comfortable lake boats to a point near their destination. The canal trip was usually made on boats which, on the trip from Buffalo to New York, were used for freight transportation, while on the return trip to Buffalo they were packed with the household goods, machinery, cattle, and families of those who dreamed of new homes in the West. The passengers were glad to pay the cent and a half a mile which was the customary fee demanded.

The canal boat was a curious structure, about eighty feet long and twelve feet wide. On the deck was a cabin, in which were cramped sleeping quarters. The bunks were folded out of sight in the daytime, that room might be made for the long table at which the travelers ate.

The boats were drawn by three or four horses or mules, which were hitched to about two hundred



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A PACKET BOAT ON THE ERIE CANAL

feet of tow line. It has been estimated that at one time there were as many as sixteen thousand animals in use on the Erie Canal, and that there must have been fifty thousand horses and mules on all the canals.

The driver was, usually, a mere boy. Many drivers were only ten years old. The towpath became a refuge for orphans, who eagerly adopted this method of earning ten dollars a month and board.

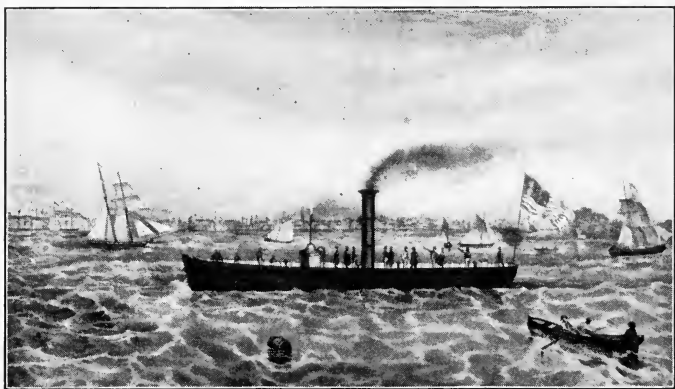
While the speed of these boats was sometimes as great as four miles an hour, the average speed for the day was much less. Stops were frequent, and passage through the locks, by means of which a higher or a lower level was reached, was made at great cost of time. A mile and a half an hour was considered a good average speed. The possibilities of such rapid travel were shown by Colonel William T. Stone, one of the editors of the New York *Commercial*, who wrote of a trip made to the West in 1829. Of one day's adventure he said:

Stepping ashore to look about a little, while the boat stopped to water the horses, I was surprised to find on turning around that the boat was off, and a bend in the canal had thrown it out of sight as if by magic. I lost some moments in a vain endeavor to get a horse to follow on, but was compelled to test my own speed, which, hindered with a heavy overcoat and an asthmatic affliction, was not of the fleetest. However, after running about a mile, I came near enough to hail the boat.

A traveler who made a trip on the Erie Canal in 1825 gave another laughable picture of this primitive transportation system:

One of the greatest inconveniences in traveling on the canal is the frequency and lowness of the bridges; under most of these the boat has just room to rub. If passengers are standing upon the deck, with their backs to the bridge, they are liable to be swept off or crushed to pieces. Several

accidents of this kind have already happened, and would occur daily, had not the danger rendered it a part of the helmsman's duty to give notice when the boat is approaching a bridge. Those who are expert, leap the barrier, jumping up on one side and off at the other, while others hurry below, sometimes with all possible dispatch and even then not without losing a hat. Measures are taken to correct this inconvenience by elevating the bridges several feet above the highest decks.



THE IRON STEAMBOAT R. F. STOCKTON

Travelers who were willing to pay an extra rate of fare traveled by limited packet boats, which made few stops and thus were able to make an average distance of something like the four miles which the state law allowed. Greater speed was not permitted because it was found that when boats moved faster, the wash set up caused the banks of the canal to crumble. The usual time

required for the journey from Albany to Buffalo was six or seven days, though there is record of a journey which required but five days and a half. An Albany newspaper spoke of this in terms of wonder as a "Quick Passage."

Fanny Kemble, the actress, in her journal, published in Philadelphia in 1835, told of a trip she made on an Erie Canal packet boat in 1833. She said:

I like traveling by the canal boats very much. Ours was not crowded, and the country through which we passed being delightful, the placid moderate gliding through it at the rate of about four miles and a half an hour seemed to me infinitely preferable to the noise of wheels, the rumble of a coach and the jerking of bad roads, for the gain of half a mile an hour.

To Miss Martineau, the English traveler, canal travel did not seem so delightful as to Miss Kemble. She said:

I would not advise ladies to travel by canal. . . . On fine days it is pleasant enough sitting outside (except for having to duck under bridges every quarter of an hour) and in dark evenings the approach of the boat lights on the water is a pretty sight; but the horrors of night and wet days more than compensate for all the advantages these vehicles can boast.

As a contrast to this dismal picture, we have the assurance given by Miss Caroline Spencer, in

an article in the *Magazine of American History*, published in 1889, that in 1835 she found the boat exceedingly pleasant.

It seemed such a relief from the hot breathing steam-boat and the close, hurried railroad car. . . . The windows of the boat are sufficiently large to make the view pleasant from them; and as you ride along through the most rich and delightful country whose banks touch the sides of the boat, you almost fancy yourself in fairy land.

But comparatively few of those who used the canals were able to travel for pleasure. Most of them had serious business before them; for tens of thousands this business was the carving of a home from the Western wilderness, to which they were traveling at "a mile and a half an hour for a cent and a half a mile."

Sources. NOBLE E. WHITFORD, C. E. History of the Canals of the State of New York. (Printed as a supplement to the State Engineers' Report of 1905.)

DAVID L. BUCKMAN. Tow-path and Packet Days. (Unpublished manuscript.)

The vision of the West that must be built up was constantly before the eyes of far-seeing statesmen. Realizing that something more than canals would be necessary for the transportation of settlers who sought the new country, they made the daring plan of a highway a thousand miles long.

CHAPTER XXV

THE GREAT NATIONAL ROAD

Many American young people have never heard of the old National Road. In fact, many of the older generation have forgotten this wonderful engineering triumph of the early years of the last century. In this age of railroads, trolley lines, telegraphs, and telephones, we sometimes think that there were no really great works during the days of our grandfathers, and earlier.

But the traveler in Indiana, Ohio, West Virginia, or Pennsylvania, who passes over one of the massive bridges or along the still solid bed of the National Road, must change his mind. Interest leading to inquiry, he will learn that he has seen a section of "the longest straight road ever built in the world," a road which "for seven hundred miles marks the course of the Star of Empire in its advance" from the East to Indiana.

Archer Butler Hulbert says of the road:

When the West was in its teens and began suddenly outstripping itself, to the marvel of the world, one of the momentous factors in its progress was the building of a great road from the Potomac to the Mississippi, by the United States government. This was one of the most important steps in that movement of national expansion which followed the conquest of the West. It is probably impossible for us to realize fully what it meant to this West when that vanguard of surveyors came along the western slope of the Alleghenies, hewing a thoroughfare which should, in one generation, bind distant and half-acquainted States together in bonds of common interest, sympathy and ambition. Until that day travelers spoke of "going into" and "coming out of" the West as though it were the Mammoth Cave. Such were the difficulties of travel that it was commonly said, despite the dangers of life in the unconquered land, if pioneers could live to get into the West, nothing could, thereafter, daunt them. The growth and prosperity of the West were impossible until the dawning of such convictions as those which made the National Road a reality.

The road was called into being by the necessities of hardy settlers who had pushed into the Ohio country. In 1802 Congress passed the enabling act by which, a little later, Ohio entered the Union. A provision of this act was that five per cent of the net proceeds from the sale of public lands within the state should be devoted to

building public roads, under the authority of Congress. In 1806 Albert Gallatin, who conceived the National Road, succeeded in having commissioners appointed by President Jefferson to report on the



MAIL COACH, WASHINGTON TO COLUMBUS

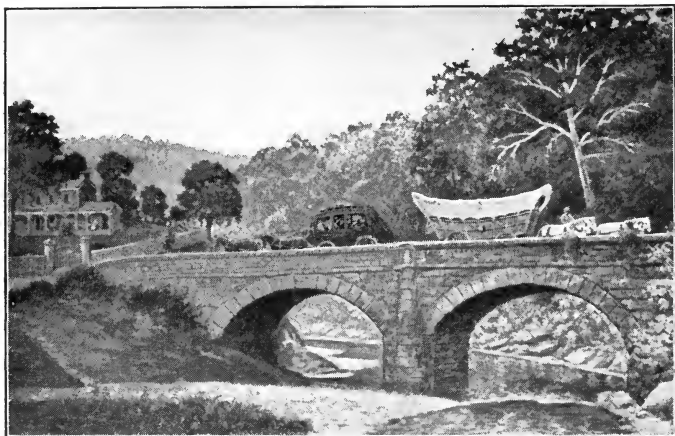
feasibility of the project. Almost immediately it was determined to begin work. Cumberland, Maryland, was fixed as the starting point. Thence the road was to run to Uniontown and Washington, Pennsylvania. Wheeling, West Virginia, and Steubenville, Ohio, were eager claimants for the crossing

of the Ohio River. Through the influence of Henry Clay, Wheeling won in the contest, and a statue, erected to his memory in gratitude for this service, stands to-day by the side of the road in Elm Grove, five miles from Wheeling.

The first contracts, for ten miles leading out of Cumberland, were signed in 1811. Six years later Uniontown was reached. The first mail coaches ran through from Washington to Wheeling in 1818. The construction was at first somewhat flimsy, but later the entire road was built of the best macadam and was then handed over to the states through which it passed. Toll gates were set up, and the income was used for repairs.

In 1820 Congress appropriated \$20,000 for the survey from Wheeling to the Mississippi River. In 1825 the first appropriation for road building in this section was made. In 1833 Columbus, Ohio, was reached. Indianapolis soon after became the center of operations. The original intention to build to the Mississippi River was modified upon the introduction of railroads. For a time Congress debated whether it would not be wise to make the last section of the great work a railroad rather than a turnpike. Final decision, however, was against the change. But years had passed, there was not so much necessity for a road, and

the grading of the bed was the only work done in Illinois. The grading was completed as far as Vandalia, at that time the capital, for, according to law, the road was to pass through the capitals of all the states touched west of the Ohio River.



ONE OF THE MASSIVE BRIDGES

Reproduced by permission of the Philadelphia Commercial Museum

The final appropriation was made in 1844, on account of a survey to Jefferson City, Missouri. The total amount expended was nearly \$7,000,000, an average of \$10,000 per mile.

The road never paid expenses. The receipts for many years were large, but the expenses were still larger. In forty-seven years Ohio collected nearly a million and a quarter dollars in tolls. The yearly

expense of repairs was nearly one hundred thousand dollars, while the greatest amount collected in any one year was \$62,496. As early as 1832 the governor of Ohio was authorized to borrow money to repair the road in that state.

But this financial failure was not a disappointment. It was not the idea of the statesmen of the early nineteenth century to build a money-making highway. Their aim was to help the West. In this they succeeded. During the generation when the road was the only means of transportation for immigrants, the population of Ohio, Indiana, and Illinois increased from 783,635 to 3,620,314. This increase was many times as rapid as that of other states during the same period.

Those were the days when the stagecoach was in its glory. There were many lines in operation over all divisions of the turnpike. Some of the earlier coaches were quite primitive, but improvements were rapidly made, and rival lines vied with each other in providing the best equipment. The *Ohio State Journal* of August 12, 1837, gave the following description of "A Splendid Coach":

We have looked at a Coach now finishing off in the shop of Messrs. Evans and Pinney, for the Ohio Stage Company, and intended we believe for the inspection of the Postmaster General, who some time since offered premiums for models of

the most approved construction, which is certainly one of the most perfect and splendid specimens of workmanship in this line that we have ever beheld, and would be a credit to any Coach Manufactory in the United States. It is aimed, in the construction, to secure the mail in the safest manner possible, under lock and key, and to accommodate three outside passengers, under a comfortable and complete protection from the weather. It is worth going to see.

Ten miles an hour was the recognized rate of travel. On special occasions much greater speed was made. In 1837 Van Buren's message was carried eighty-seven miles in two hundred and twenty-six minutes. In the same year regular mails were carried from Washington to Wheeling in thirty hours; to Indianapolis in sixty-five hours; to St. Louis in ninety-four hours.

But the railroads came, and the fortunes of the road declined. It had served its purpose. To-day some sections are neglected, owing to the carelessness and indifference of county officials. Still other sections are as solid and substantial as ever. In West Virginia and Pennsylvania and parts of Ohio "the pike" is still the pride of the people.

There are many relics of its greatness. Milestones, iron in the East, stone in Ohio, are still standing. Old taverns are here and there along the way. What tales they might tell of the gay parties

which ate and slept within their walls! Teamsters' lodging houses are falling into decay. But the massive stone arch bridges stand, and will stand for many years. "It is doubtful if there are on the continent such monumental relics of the old stone bridge builder's art," one engineer says. During a flood in West Virginia, some years ago, a great iron railroad bridge was carried from its foundations, and swept downstream to the old S-bridge near Wheeling. The stone bridge stood the test of the great impact. The iron beams were bent and twisted, and finally were swept through the arches and down the stream.

One historian says:

Were these relics all gathered together — from Indiana, and Ohio, and Pennsylvania, and Virginia, and Maryland — and cemented into a monstrous pyramid, the pile would not be inappropriate to preserve the name and fame of a highway which, as Everett said, "carried thousands of population and millions of wealth into the West, and, more than any other material structure in the land, served to harmonize and strengthen, if not to save, the Union."

Source. ARCHER BUTLER HULBERT. *Historic Highways*, Vol. X, "The Cumberland Road." The Arthur H. Clark Company, Cleveland, Ohio.

There came a day when settlers wished to go far beyond the territory opened up by the great National Road. As early as 1846 many people were lured to the Pacific coast by wonderful tales of the delights of that region. They knew they would have to cross a trackless wilderness to reach the land of their dreams, but the thought did not deter them.

The story told by a survivor of a famous party which made the overland journey gives a vivid picture of the perils braved by those who sought the West.

CHAPTER XXVI

ACROSS THE PLAINS IN 1846

I. THE JOURNEY

Before the days of railroads, those who made the overland trip to California suffered untold hardships. Thousands perished from hunger and exposure, or were killed by the Indians. A graphic picture of the sufferings of these hardy Western pioneers is given in the story of the ill-fated Donner party.

The central figure in the story is a little girl named Eliza Donner. She was less than four years old when her adventures began, but many of the events were impressed on her memory so indelibly that when she was nearly seventy years old she told them for the boys and girls of to-day.

Eliza Donner lived with her parents and four sisters, one younger and three older than herself, on a farm near Springfield, Illinois. One day in the spring of 1846 she learned that her father and her mother had decided to move to California. Such a journey was not so easy a matter as it is in this day of railroads. For many hundreds of miles of the way there was not even a wagon road. Roving Indians were everywhere. California was then a part of Mexico. Yet when the Donners decided to make the five months' journey, seven of their neighbors asked permission to go with them. In all, thirty-two persons agreed to share the dangers of the plains.

Eliza was much interested in the preparations for the journey. She saw three big white-covered wagons brought into the yard, and watched her parents as they loaded them. In one wagon they placed seed and farming implements for their own use in California, as well as laces, muslins, satins, and velvets which they hoped to trade for land. The second wagon held the supplies of food and clothing for the journey, as well as the tents and other things to be used in camp, and the bright-colored garments, beads, necklaces, looking-glasses, and so forth, with which unfriendly Indians were to be appeased. The third wagon was to be the

family home on wheels. Each wagon was to be drawn by three yoke of sturdy oxen. Three extra yoke of oxen, five saddle horses, beef cattle, and a dog were to follow the wagons.

It was a happy moment for Eliza and her sisters when the signal was given to start. They wondered



PIONEERS ON THE PLAINS

why there were tears in their mother's eyes as they left the old home and passed the familiar orchards and the fields beyond.

The first weeks passed pleasantly. Everything seemed so strange. By the time the journey began to be monotonous, other wagons joined the party, and there was great excitement for the Donner girls

as they made the acquaintance of other boys and girls. During the evening hours in camp, and in the morning before the early start, the young people would have pleasant times together on the prairies, though they were warned not to go far from camp, because Indians might be near. At noon there would be another brief interval for play, after the company had eaten dinner in picnic style on the grass.

The loneliness of the days was frequently relieved by messages from others who had traveled across the plains before them. Some of these messages came by the hands of trappers and traders who were on their way to the East. More often they were penciled on the skulls of animals lying on the prairie, or on the trunks of trees from which a patch of bark had been cut. When neither trees nor skulls were near, those who wished to leave a message would write a note and fasten it in a cleft stick driven into the ground.

Travelers were accustomed to watch for such messages. When they were uncertain about the way, they usually found something to guide them. One day, however, they looked in vain, until some one caught sight of a guideboard. The disappointment of all can be imagined when examination showed that the note which had been pasted to

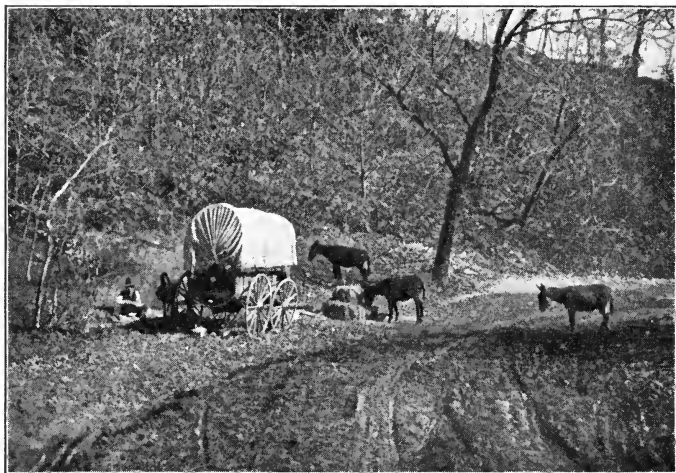
the board had been torn into bits. Evidently the crows had pecked the paper to pieces. Nobody knew what to do till Mrs. Donner began to hunt for pieces of paper on the ground, where the birds had dropped them. Others helped her. When they had as many bits as could be discovered in the tall grass, she slowly fitted them together on the guideboard, as a child matches the pieces of a picture puzzle. At last she was able to spell out the words:

2 days — 2 nights — hard driving — cross — desert —
reach water.

The Donner party was at this time in a beautiful valley where there were twenty natural wells, and so it was decided to remain in camp until the oxen were thoroughly rested. Then, taking all the water they could carry, they started across the desert. The trip required twice the time the note had said. Before the next valley was reached, the wood of some of the wagons shrank till the vehicles were useless and had to be abandoned. Every one in the party suffered from thirst, and many of the oxen perished from lack of water.

There were other delays. Some of the notes left for their guidance led them astray. Once they were thirty days in making a part of the journey

that should have required but twelve days. At another time the men made a road across eight miles of rocky country, only to find that they had to go back and start another way. These delays made the food supply short, and everybody



AT THE END OF THE DAY

was hungry. But all were willing to bear the hardships, for California seemed near, and when they reached the sunny land there would be plenty to eat and drink.

Then there was an accident that changed all their dreams. Eliza and her sister Georgia were asleep in the wagon while their father walked

beside it down a steep hill. Near the end of the incline the front axle broke, and the wagon tipped over, spilling the contents, the two girls underneath. Mr. Donner rushed to the rescue, and soon succeeded in freeing Georgia through the opening at the back of the wagon cover. Eliza was out of sight. Fearful that she might be crushed or smothered, Mr. Donner worked feverishly. At last the girl was found. Nothing was wrong with her but a bad fright.

The accident had other consequences, however. Mr. Donner injured his hand while making repairs. Then so many hours were wasted that it was impossible to cross the summit of the Sierras before the first great snowfall of the season. The party tried to go on, but they were soon unable to move. Some of the wagons, which were further along the way, managed to push through; but the Donners and a few of their friends, twenty-one in all, were at the mercy of the storm. The men and women were dismayed at their situation. The children did not realize their danger at first, but the grave faces of their parents and friends soon made them feel that something was wrong.

They were stranded in the snow near the summit of the cold mountain. They had no shelter, they had little food, and it might be many weeks

before they could push on to the valley. Their only hope was that some of the party who already had reached the valley would send assistance to them in season.

II. STARVING IN THE SNOW

Eliza Donner never forgot that first day and night in the snow in the lonely mountain valley. The day was spent by the men in felling and trimming trees. A beginning had been made on a log cabin, when darkness put a stop to the work. The moon was shining when the weary pilgrims went to bed, but during the night there was a heavy snowstorm.

The snowfall made necessary a change of plans. Instead of finishing the log cabin, the tent was pitched on a cleared space, under a pine tree, and an Indian guide showed the men how to enlarge this shelter by a rude hut of poles and boughs. On the framework were laid pieces of cloth, old quilts, and buffalo robes, as well as pine boughs. In a hollow scraped out under the tree a fire was built.

While the work was going on there was no shelter for Eliza and Georgia. "Mother tucked a buffalo robe around us," Eliza wrote, "saying, 'Sit here until we have a better place for you.' There we

sat snug and dry, chatting and twisting our heads about, watching the hurrying, anxious workers."

Before the shelter was finished the snow was falling once more, gathering in a ridge beside the children on the log, and nestling in piles under the buffalo robe. They were glad of the call to



A REST BY THE WAY

enter the hut. There, after warming themselves at the fire under the tree, and eating their meager supper, they crept into the bed, which was made of boughs laid on posts.

For eight days the snowfall continued. Mr. Donner kept up his courage, in spite of his crippled hand, leading in the work of gathering fuel, and doing all he could to make others hopeful. Many

of the cattle froze to death. The places where their bodies lay were marked, that they might be found later, as they were required for food. But the snow covered them out of sight, and few could be found. The men would prod in the snow with long stakes, but they seldom discovered what they sought.

Food became so scarce that "the little field mice that had crept into the camp were caught and then used to ease the pangs of hunger. Pieces of beef hide were cut into strips, singed, scraped, boiled to the consistency of glue and swallowed with an effort. Marrowless bones that already had been boiled and scraped were now burned and eaten, even the bark and twigs of pine were chewed in the vain effort to soothe the gnawings which made one cry for bread and meat."

The wanderers were not only hungry, they were cold. "We little ones were kept in bed," Eliza says. "My place was always in the middle, where Frances and Georgia, snuggling up close, gave me of their warmth."

So the days dragged along for more than two months. "By the middle of January the snow measured twelve and fourteen feet in depth. Nothing could be seen of our abode except the coils of smoke that found their way up through the

opening. There was a dearth of water. The creek was frozen over and covered with snow. Icicles hung from the branches of every tree. The stock of pine cones that had been gathered for light was almost consumed. Wood was so scarce that we could not have fire enough to cook our strips of rawhide, and Georgia heard mother say that we children had not had a dry garment on for more than a week, and that she did not know what to do about it. Then, like a smile from God, came another sunny day which not only warmed and dried us thoroughly, but furnished a supply of water from dripping snow banks."

Every day they looked anxiously for the coming of relief in response to the pleas of a number who had pushed on in the face of almost certain death. The Indian guide would climb to the top of a tall pine tree and look intently for a moving speck in the distance. At last, about the twentieth of February, he saw somebody coming. Soon seven men were in the camp.

These men told how they had started with a number of others, and how they had been compelled to leave by the way most of the supplies they carried with them. Small quantities of flour were carefully measured out, together with a little jerked beef and two small biscuits for each of the famishing people.

When the rescuers started back to the valley, they took with them four of the Donner party, including two of Eliza's sisters. Those who remained were told to look for the coming of other rescuers who were on the way.

Again began the days of weary waiting. Food was scarcer than ever. Mr. Donner's hand grew worse and he became weaker. Mrs. Donner did her best to keep up the courage of the children. Eliza says, "Often while knitting or sewing she held us spellbound with wondrous tales of 'Joseph in Egypt,' or 'Daniel in the lions' den' or 'Elijah healing the widow's son,' and of the tender, loving Master who took children in his arms and blessed them."

Eliza wrote thus of the failing food supply:

The last food which I remember seeing in our camp before the arrival of the Second Relief was a thin mold of tallow which mother had tried out of the trimmings of the jerked beef brought by the First Relief. She had let it harden in a pan, and after all other rations had given out, she cut daily from it three small white squares for each of us, and we nibbled off the four corners very slowly and then around and around the edges of the precious pieces until they became too small for us to hold between our fingers.

Ten days passed. Then came the second relief party. There were only ten men in the party, and they, too, had left on the way most of the

provisions with which they had started, so that these might be eaten on the way back. After giving the survivors in camp a small supply of food, they were ready to return to the valley. Mr. Donner was so weak from his wound that he was unable to go with them. He begged Mrs. Donner to leave him with the children. She would not desert him, but offered three of the men five hundred dollars if they would take Eliza and her little sisters to a place of safety. When they agreed, she gave them a parcel containing a few keepsakes, with a little clothing that might prove useful to the girls in later years. Then she made what preparation she could for their future. When she had put on their cloaks and hoods, she said to them, "I may never see you again, but God will take care of you."

In her account of that sad day Eliza wrote:

Frances was six years and eight months old and could trudge along quite bravely, but Georgia, who was little more than five, and I, lacking a week of four years, could not do well on the heavy trail, and soon we were taken up and carried. After traveling some distance the men left us sitting on a blanket upon the snow, and went ahead a short distance, when they stopped and talked earnestly. We watched them, trembling lest they leave us there to freeze. Then Frances said: "Don't feel afraid. If they go off and leave us I can lead you back to mother by our footprints on the snow."

Evidently the men were weary of their charges; they seemed to fear that they could not get to the valley if they were burdened with the little ones. But they were not cruel enough to leave them in the snow; they carried them to a cabin not far away where others of the snowbound party were waiting for deliverance.

It was dark when the children entered the poor shelter. There was no welcome for them, but they were told to lie on a bed of branches on the ground. For a long time they could not go to sleep; other children in the cabin made their presence known by the pitiful plea, often repeated: "Give me some bread. Oh, give me some meat!"

Eliza and her sisters huddled close on their bed of branches, their arms tightly clasped around each other, and so, at last, they fell asleep.

III. FINDING A HOME

Days passed in the dark cabin. The snow fell drearily. Hunger was a constant guest. One day a little girl from a neighboring hut came in, bearing a number of biscuits which had been baked in the ashes. There was one for everybody in the cabin. "Few can know how delicious those biscuits tasted, and how carefully we caught each dropping crumb," Eliza wrote of the event.

Another day there was a cry from a boy who stood on the snow above the cabin to see if any help were coming:

I see — a woman — on snowshoes — coming from the camp! She's a little woman — like Mrs. Donner. She is now looking this way — and may pass!

Mrs. Donner heard the call of the frantic boy, and in a few moments she was with her children. She had heard that they were in the cabin, and had pushed her way over the snow. She told the children that there was still a half biscuit left from the supplies brought by the second relief party. Eliza tells the thoughts that biscuit brought to her mind:

How big that half biscuit seemed to me! I wondered why she had not brought at least part of it to us. I could see that broken half biscuit, with its ragged edges, and knew that if I had a piece, I would nibble off the rough points first. The longer I waited the more I wanted it. Finally I slipped my arms around my mother's neck, drew her face close to mine and whispered, "What are you going to do with that half biscuit you saved?" When Mrs. Donner answered, "I am keeping it for your sick father," Eliza was satisfied.

At last the third relief party came. Mrs. Donner asked the leader of the little company if he would take her children to safety. He said he

would either save them or die with them on the trail. Once more the mother said good-by to them and went back to the husband who was so soon to close his eyes in the sleep that would make him forget pain and hunger. She would stay with him to the end. She did as she said she would; and a little later she too fell asleep in the snow and woke where there is no more hunger and no more cold.

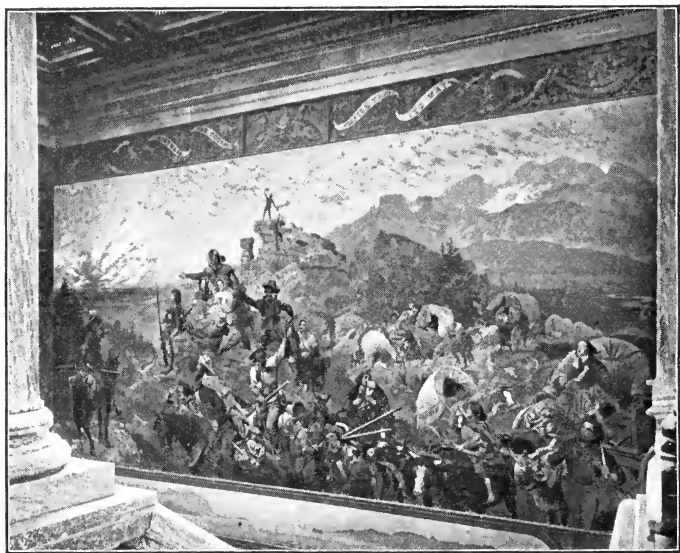
The children were again dressed to start on their journey over the snow. Eliza has described their appearance :

Georgia and I were clad in quilted petticoats, linsey dresses, woolen stockings and well-worn shoes. Our cloaks were of a twilled material, garnet, with a white thread interwoven, and we had knitted hoods to match. Frances's clothing was as warm ; instead of a cloak, however, she wore a shawl, and her hood was blue. Her shoes had been eaten by our starving dog before he disappeared, and as all others were buried out of reach, mother had substituted a pair of her own in their stead.

The way was rough. Snowdrifts were on every side. Icy ridges were to be crossed, where to slip or fall might mean death in the yawning depth below. The men were unable to carry the children all the time, and it was necessary for them to struggle on as best they could. Eliza stumbled so

much that one of the men put her in his blanket on his back and carried her as the Indian mother carries her child.

After going some distance a package was picked up. This was opened that evening beside the camp



"WESTWARD THE COURSE OF EMPIRE TAKES ITS WAY"

From the painting in the rotunda of the Capitol at Washington

fire. It was found to contain the keepsakes and clothing delivered with the children to the men of the second relief party, who later deserted them. As the clothing of the little girls was the worse for wear, it was decided to dress them in the fresh

underwear and the silk dresses in the package. Eliza's account of the fitting of the dresses to the little owners is worth reading:

Mr. Thompson pulled out the same sharp pocketknife, coarse black thread, and big-eyed needle, which he had used the previous evening, while making Frances a pair of moccasins out of his own gauntlet gloves. With the help of Mr. Eddy, he then ripped out the sleeves, cut the waists off about an inch above the skirt gathers, cut slits in the skirts for armholes, and tacked in the sleeves. Then, with mother's wish in mind, they put the dove-colored silk on Frances, the light-brown on Georgia and the dark coffee-brown on me. Plaits and laps in the skirt bands were necessary to fit them to our necks. Strings were tied around our waists, and the skirts tacked up until they were walking length. These ample robes served for cloaks as well as dresses, for we could easily draw our hands back through the sleeves and keep our arms warm beneath the folds. Thus comfortably clad, we began another day's journey.

Days passed before the Sacramento Valley was reached. A woman they saw at the first house in the valley was kind to Eliza till she saw the silk dress she wore. Then her cupidity got the better of her kindness. She took the dress, exchanging it for an outgrown garment belonging to her own little girl, which was far too small for Eliza. To a companion she whispered, "This will make two for my little girl."

At the next house real kindness was shown the party. The woman who lived there gave the children bread and milk for supper. Then, having no bed for them, she loosened one corner of the rag carpet and put fresh straw on the floor. On this she placed the weary children. Then the carpet was tucked securely about them in place of quilts.

A little further on the party came to Sutter's Fort, where the first discovery of gold was soon afterwards made. There they found many kind people, most of them women and children; the men were away with Frémont, serving in the Mexican War. On account of their absence food was scarce, but the children shared with the boys and girls at the fort. One of these boys was especially kind to Eliza. He knew by sad experience what it meant to be hungry, so he came to her one day and whispered:

See here, little gal, you run get that little tin cup of yours, and when you see me come out of Mrs. Wimmer's house with the milk pail on my arm, you go round yonder to the tother side of the cow pen, where you'll find a hole big enough to put the cup through. Then you can watch me milk it full of the nicest milk you ever tasted. You needn't say nothing to nobody about it. I gave your little sister some last time, and I want to do the same for you. I hain't got no mother neither, and I know how it is.

The Indians too were good to the children. Eliza writes her memories of them :

They gave us shreds of smoked fish and dried acorns to eat ; lowered from their backs the queer little baby beds, called "bickooses," and made the chubby faces in them laugh for our amusement. They also let us pet the dogs that perked up their ears and wagged their tails as our own Uno used to do when he wanted to frolic. Sometimes they stroked our hair and rubbed the locks between their fingers, then felt their own as if to note the difference.

One evening in June the hungry Eliza and her sisters wandered into a shop where they saw a white-haired old man cutting meat for customers. After all of these were gone, Eliza, remembering how she had been told to address old people, said :
"Grandfather, please give us a piece of meat."

Pleased at the greeting, he cut for each a piece of liver, which they later toasted over the coals, impaling the slices on sharp sticks. Eliza's piece fell in the ashes, but she was so hungry she did not object to the taste.

That night the old man went home and said to his wife, a good German woman :

"Mary, at the fort are three hungry little orphan girls. Take something to them as soon as you can. One child is fair, two are dark."

It was not long before the children saw a stout

old woman coming toward them. Eliza describes how she looked :

On one arm she carried a basket, and from the hand of the other hung a small, covered, tin pail. Her apron was almost as long as her dress skirt, which reached below her ankles, yet was short enough to show brown stockings above her low shoes. A brown, quilted hood of the same shade and material as her dress and apron concealed all but the white lace frill of a "grandma cap," which fastened under her chin with a bow. Her dark hair drawn down plain to each temple was coiled there into tiny wheels, and a brass pin stuck through crosswise to hold each coil in place. Her bright, speaking eyes, more brown than gray, gave charm to a face which might have been pretty had disease not marred it in youth.

When she was near, the children greeted her, "Good morning, grandmother!"

The old woman never had had a child, and the greeting from childish lips conquered her. She put down her basket, gave them eggs, bread, butter, cheese, and milk. Then she took Eliza home with her and treated the child as if she had been her own daughter. Eliza was overjoyed when she found at the home of the German woman the old man who had given the slices of liver to her and her sisters. She climbed on his knee, and told him how she had cooked the liver, and how good it tasted. He wiped his eyes and said:

"Mine child, when you little ones thanked me for that liver, it made me not so much your friend as when you called me grandfather."

So Eliza found her new home. For years she lived with the kind German family. Then she went to Sacramento to school. In 1861 she married, and on her wedding journey went to see the kind people who had given her a home for so many years. For many years she had a beautiful home in San José, California, where boys and girls delighted to go to see the pleasant-faced lady who told such interesting stories of the early days in California.

Source. ELIZA P. DONNER HOUGHTON. The Expedition of the Donner Party and its Tragic Fate. A. C. McClurg & Co., Chicago.

Only a little more than a year after the sad experience of the Donner party in the mountains, gold was discovered. Then there was a rush to carry the first of the precious metal to the East. No slow journey by emigrant wagon would satisfy the bearers. Two men chose their routes, and ran a race to Washington.

CHAPTER XXVII

THE FIRST BEARER OF CALIFORNIA GOLD

The story is familiar of the discovery of gold in 1848, at Sutter's mill race in California. But the story of how the first gold was brought to the East was never told in detail till the publication of the life of General Edward Fitzgerald Beale.

At the time of the discovery General Beale was a midshipman on the United States Steamship Ohio. Commander Jones selected him to carry to Washington word of the discovery, and urged him to arrive ahead of an officer of the army who was leaving on the same errand at about the same time.

The young midshipman wished to take with him a sample of the gold, but as the navy regulations gave no authority for the purchase, he had to secure it on his own account. It is said that he had in his possession a large quantity of quinine

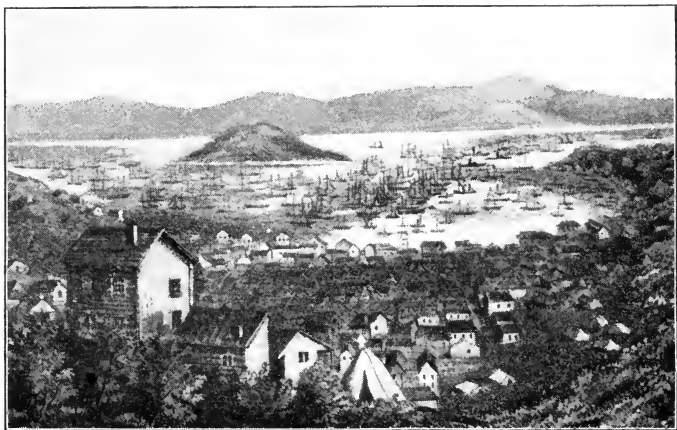
which at the time was quoted in San Francisco at a higher price than gold. One of the earliest visitors to the mill race was persuaded to exchange a substantial quantity of gold for one hundred grains of quinine.

To distance his army competitor, who planned to go by way of Panama, Midshipman Beale decided to cross Mexico from ocean to ocean. In this way he won the race by two months, as the army messenger was carried to Peru and had to make his way back to Panama.

For the rough journey across Mexico, Beale wore a sombrero, a red flannel shirt, leather breeches, and boots. He carried four six-barreled revolvers, and a knife. As he was much sunburned and spoke Spanish well, he hoped to be able to pass unobserved.

Bands of ladrones infested the highways. His biographer says that he was held up once by three robbers, "who, however, made off when confronted with great resolution and the four American revolvers, and he became so thoroughly convinced of the uncertainties and perils of his undertaking that he assumed the responsibility of opening his dispatches and making copies of them, which he sent by mail to the American Minister at Mexico City. Then he immediately pushed on, traveling

night and day, and taking no rest but by throwing himself on the ground at each post while the saddles were being changed to fresh horses. Once a band, coming out of the woods, just at nightfall, chased him for several hours, but he finally out-rode them, though not before the foremost had



SAN FRANCISCO IN 1849

shot at him a number of times with their carbines. At the next post after this adventure he heard of a party of eleven travelers, just ahead of him, being attacked by a large party and murdered to a man. He found their blood still staining the muddy ground."

It was the rainy season, and the miserable roads were almost impassable. "Furious storm succeeded

furious storm, the water courses swelled into raging torrents, which could only be crossed by swimming. The roads were blocked by uprooted trees and avalanches of stones and mud, and at night Beale found his way chiefly by the almost incessant flashes of lightning. When in the eighth day he arrived at Mexico City, he was literally cased in mud."

In spite of delays his progress was rapid. The ninety leagues between Mexico City and Vera Cruz he covered in sixty hours, although on the way he was held up once more by brigands, from whom he escaped by a daring dash down an almost precipitous mountain side. At Vera Cruz he slept under a roof for the first time, with the exception of the nights spent in Mexico City.

Although his guide had to be confined as a madman, having lost his mind during the hardships experienced, Beale was able to continue his journey at once.

After he had crossed the Gulf of Mexico to Mobile in a sloop of war, the remainder of the trip was comparatively easy. Until the railroad was reached, the traveler was compelled to make use of the slow stagecoach.

At Washington his news was received with incredulity. His gold was criticized. "It glitters, it

looks like gold, but it isn't gold," many insisted. Special messengers were sent to California by land and by sea to bring back further specimens.

In New York, however, men were not such unbelievers. They handled the nugget and the dust which Beale carried, and their eyes glittered with longing. Thousands followed him when he appeared on the street.

P. T. Barnum, the proprietor of the Philadelphia Museum, saw a chance to make money out of the small specimen borne by the midshipman, and so he wrote him, offering to buy the precious metal or to pay him well for its use for exhibition purposes.

But Beale did not like the notoriety. He disappeared after placing half of his gold on view at the Patent Office in Washington.

Two months later the delayed army messenger arrived in Washington, carrying three thousand dollars' worth of gold. At once began a migration to California that crowded every available vessel. Thousands who could not obtain passage by sea or were unable to pay the price asked, crossed the plains and the desert. Within two years mining in California was advancing by leaps and bounds.

Source. BONSAL. Edward Fitzgerald Beale: a Pioneer in the Path of Empire. G. P. Putnam's Sons, New York.

When the discovery of gold in California caused the immigration of tens of thousands to the Pacific coast, the lack of mail facilities was felt keenly. At first it took months for the exchange of letters between residents in California and their friends in the East. Yet in 1860 letters were carried two thousand miles in seven days.

CHAPTER XXVIII

THE PONY EXPRESS

In 1854 Senator Gwin of California, who had just made the overland journey, proposed to Congress a weekly mail express between St. Louis and San Francisco. The time was to be ten days, and five thousand dollars was to be paid for each trip. But Congress seemed to think it a wild scheme, and nothing was done. California was forced to content itself with receiving mail by way of Panama. When the steamers were not delayed, a letter would be delivered in twenty-two days. When Utah Territory was created, the news, which started in September, 1850, reached Salt Lake City in January.

On September 15, 1858, the coaches of the Southern Overland Mail left both San Francisco and St. Louis for the journey between the two cities by way of Southern California. The distance

was two thousand seven hundred and fifty-nine miles, and the time was made in exactly three weeks. The fare was one hundred dollars, in gold. Letters were carried for ten cents a half-ounce. The equipment consisted of more than one hundred Concord coaches, one thousand horses, five hundred mules, and seven hundred and fifty men, including one hundred and fifty drivers. Nearly three years later the first stage on the central route, from St. Joseph, Missouri, to Placerville, California, made the two thousand miles in seventeen days.

Contrast this with the record made by the Pony Express, which carried Buchanan's second message from St. Joseph to Sacramento, two thousand miles, in seven days and nineteen hours. Two hours were cut from this record several years later.

The Pony Express, a system of transportation which employed ponies in relays, was started by private parties in 1860. The first schedule was fourteen days, by rail from New York to St. Joseph, thence by running ponies to Sacramento. It is said that from the beginning the trip was made on schedule time, and that the movements of the ponies could be counted on as certainly as the traveler of to-day counts on the express train. When it is remembered that seven days, three

hours, and forty-five minutes was the time required by the first express train to cover the distance between New York and San Francisco, it will be seen how remarkable was the performance of the Pony Express.

"The ponies employed in the service were splendid specimens of speed and endurance" is the record written by Bradley. "They were fed and housed with the greatest care, for their mettle must never fail the test to which it was put. Ten miles' distance at the limit of the animal's pace was exacted from him, and he came darting into the station flecked with foam, nostrils dilated, and every hair reeking with perspiration, while his flanks thumped at every breath.

"Nearly two thousand miles in eight days must be made; there was no idling for man or beast. When the express rode up to the station, both rider and pony were always ready. The only delay was a second or two as the saddle-pouch with its precious burden was thrown on, and the rider leaped into his place; then away they rushed down the trail, and in a moment were out of sight.

"The case of precious letters made a bundle no larger than an ordinary writing tablet, but there was five dollars paid in advance for every letter transported across the continent. There were hundreds

of them sometimes, for they were written on the thinnest paper to be procured."

Each section of the road was from one hundred to one hundred and forty miles long. Twenty pounds was the limit in weight of mail carried.



A PONY EXPRESS RIDER ON THE LOOKOUT FOR INDIANS

In all, six hundred and fifty thousand miles were ridden by the riders of the original company, and only one small, unimportant mail was lost.

When the telegraph was completed across the plains, rates on letters fell to one dollar. In addition, it was necessary to pay the United States

ten cents on each letter, though it was carried by private hands. There was for many years a survival of this double payment. Wells, Fargo & Co. long carried letters for particular business men who insisted that they got better service from the company, but the regular United States postage had to be paid in addition to the company's charge, the reason being that the mail-carrying privilege is retained by the government.

The Pony Express never paid expenses. For the period of sixteen months that it was in operation, it is stated that the expenses were approximately as follows:

Equipping the line	\$100,000
Maintenance, \$30,000 per month . .	480,000
Nevada Indian War	75,000
Miscellaneous	45,000
	<hr/>
	\$700,000

The receipts were less than five hundred thousand dollars. The results were, however, out of all proportion to the cost. It opened the way, first for the transcontinental telegraph, then for the railway, and so for the marvelous development of the whole Western country.

Sources. VISSCHER. A Thrilling and Truthful History of the Pony Express. Rand, McNally & Co., Chicago.

BRADLEY. The Story of the Pony Express. A. C. McClurg & Co., Chicago.

While the problem of speedy transportation of letters was being solved, a plainsman was planning for an efficient means of transportation across the sandy waste. His idea was so startling that some people thought he was crazy, but he managed to convince those in authority at Washington that his plan should be tried.

CHAPTER XXIX

THE FORGOTTEN CAMEL CORPS

This is not a story of Africa or Asia, but of America; and it is not a tale of the circus or the menagerie, but of the Western plains.

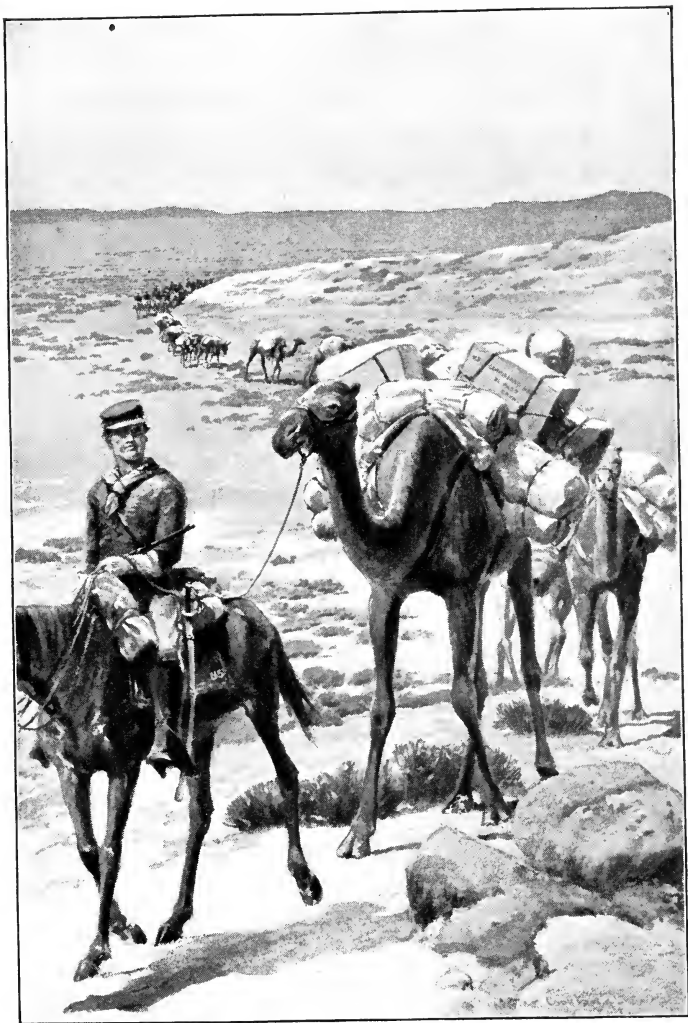
At the close of the war with Mexico, hundreds of thousands of square miles were added to the territory of the United States, and there was need for many new stations and forts for our army. Soldiers were sent to these stations. Then supplies of all kinds had to follow the soldiers.

But how were the supplies to be forwarded across the desert? Wagon transportation was made difficult by the presence of Indians and Mexicans. Many plans for furnishing the desired transportation facilities were suggested. Finally, General Edward F. Beale made a proposal that seemed the most impractical of all, except that advocated by a man who wanted a relay of balloons.

General Beale's suggestion was the organization and equipment of a camel corps. The thought came to him while crossing Death Valley in California, in company with Kit Carson. On his journeys he always carried a book. On this occasion the book described Huc's explorations in Tartary. While reading this he became convinced that the introduction of camels to the Western desert of America would rob travel of half its terrors. Kit Carson was not enthusiastic when the plan was outlined, but when General Beale went to Washington to propose it, his reception was different. At that time Jefferson Davis was secretary of war, and he felt that the proposed camel corps might be practical. At any rate, he was willing to try it.

In May, 1855, the steamship *Supply* sailed for Tunis to secure camels for the experiment. The captain of the steamer had never seen a camel, outside a circus, so he very wisely bought two camels and brought them on board for the purpose of studying their habits, that he might treat the herd intelligently when it should be in his care. Later thirty-three camels were purchased.

In April, 1856, the *Supply* reached Indianola, Texas, with its cargo. After landing the ungainly animals, the commander of the expedition returned



THE CAMEL CORPS IN THE DESERT

to Asia Minor for a second supply. In the summer of 1856 he landed forty-four camels, all seasick.

General Beale took charge of the animals, and declared most enthusiastically to all inquirers that they would revolutionize desert transportation. Inquirers were many, too, for popular interest in this new method of carrying goods was great. From El Paso, Texas, the commander of the camel corps wrote:

When exactly the right breed is at our disposal, and when one or two Turks or Arabs to the manner born have been induced to remain long enough to familiarize our people with the habits of the camels, complete success will undoubtedly be attained.

An account of the beginning of the journey of the camel trains to the West was written by General Beale to the War Department. There were none in his party who knew the habits of the animals, yet everything went well. There was not an accident, in spite of the predictions of people in San Antonio who said that none of the camels would ever see El Paso. The road was the most trying General Beale had ever seen; every unshod workhorse or mule with the party went lame. Yet not a camel became tenderfooted. "I attribute this," he said, "not so much to the spongy-natured, gutta-percha-like substance which forms their feet,

as to the singular regularity and perpendicular motion with which the foot is raised and put down. In horses and mules there is always more or less of a step or a shuffle, but the camel lifts his foot clearly from the ground, extends the leg and replaces it squarely and without the least shuffle or motion to create friction."

Another reason for his enthusiasm was that the camels "live and keep well on food which the mules reject, and which grows in the greatest luxuriance in the most barren of our American deserts, namely the greasewood, a small bitter bush, useless for any purpose I have been able to discover except this. Although they eat grass when staked out to it, if left to themselves they will instantly leave the best forage and browse greedily on bushes of any kind whatever in preference."

On January 21, 1858, the newspapers of San Francisco printed a letter from Los Angeles which told of the arrival of General Beale, with fourteen camels. He was more enthusiastic than ever, and the camels had served him well in all his journeys in the desert.

When Jefferson Davis left the Cabinet there was nobody except General Beale to defend the camels against those who declared that the mule was the only dependable beast of burden for

American deserts. Their protests were enforced by the complaints of the soldiers, who feared the camels, in spite of the presence of Turks, whose unconcern in handling them was a matter of comment.

Many of the camels strayed away from the army posts, and many died of neglect. For years the wandering animals were seen here and there in Arizona and New Mexico.

The surviving animals were condemned by the army board and sold at auction. General Beale bought them and kept them as long as they lived. Frequently he drove two of them attached to a sulky. In this strange conveyance he once made a journey of one hundred miles, to Los Angeles.

Source. BONSAL. Edward Fitzgerald Beale: a Pioneer in the Path of Empire. G. P. Putnam's Sons, New York.

The scheme to make the camel the ship of the American desert failed, but other attempts to solve the transportation problem were more successful. The overland freighters were far less picturesque than camels, but they accomplished for the scattered settlers in the West what camels could never have done.

CHAPTER XXX

FREIGHTING ON THE PLAINS

Before the railroads were built across the plains many freighting companies came into existence. These, with the Conestoga wagons and prairie schooners of the immigrants, made the roads of the prairies, the desert, and the mountains scenes of remarkable activity. Almost daily great caravans set out from the Missouri River.

There is no way of telling how many passengers crossed the plains between 1846 and 1860, nor how much freight was carried. However, an idea of the extent of the traffic is given by these facts: approximately forty-two thousand people went to California in 1849 alone; ten years later observers at Fort Kearney in a single day sometimes counted as many as five hundred heavily laden wagons; in six weeks, in 1865, six thousand wagons loaded with freight passed that point.

F. A. Root, a messenger on the overland stage line from Atchison to Denver, says that he counted, in one day's ride, between Fort Kearney and old Julesburg, 888 westbound wagons, drawn by 10,650 oxen, horses, and mules. He adds that at almost



FREIGHTING PROVISIONS ACROSS THE PLAINS

any hour there would be what looked like "a solid train of moving, white-covered wagons."

The driver of a team of horses or mules counted on twenty-one days as the time required for the trip from points on the Missouri River to Denver. The animals were not permitted to go faster than a

walk. Ox trains made but eighteen or twenty miles a day, and thirty-five days were spent on the road.

An incident related by Mr. Root illustrates the relative speed of the overland stage and the overland freighter:

An Atchison freighter had just pulled out with his ox train one Monday morning, a few minutes before the regular hour of departure for the express coach. I passed him on Eighth street, then at the extreme western business portion of the city, and reached Denver in six days. Remaining there two days I started on my return trip to Atchison. On my way down I met and chatted briefly with my friend somewhere near the head waters of the Little Blue River, near the divide, perhaps twenty-five miles southeast of Fort Kearney. I reached Atchison, remaining a week. On my way west the next trip I passed my friend again on the South Platte. I reached Denver, stopping two days, then returned to Atchison on my regular trip, meeting him again on my way east. Remaining another week in Atchison, I pulled out with the stage-coach, once more for the Colorado metropolis. Imagine my surprise when, within a few miles of Denver, I was greeted by the freighter's familiar voice. During the time he had been making his trip of 653 miles with his oxen, traveling every day except Sundays, I had ridden five times across the plains, a distance of 3265 miles, and had laid by eighteen days.

But even if progress was slow, it was sure. Every month immense quantities of freight were carried from the Missouri River to western points.

In 1865 over 21,000,000 pounds of freight were shipped from Atchison, loaded in 4917 wagons which were drawn by 8164 mules and 27,685 oxen, and were cared for by 1256 men. One Leavenworth firm conducted such a tremendous business that they required 6250 wagons and about 75,000



PART OF THE CARAVAN

oxen. Mr. Root estimates that if these oxen and wagons had been put on the road at one time, they would have made a train forty miles long.

Usually twenty-five wagons were sent out in one train by this Leavenworth firm. The men who accompanied such a train are enumerated as follows: "A captain, who acted as wagon-master;

an assistant wagon-master; the extra hands; the night herders; a cavallard driver, whose duty it was to attend to the extra cattle. Besides these, there was a driver for each team, making a complete force of thirty-one men for a train."

It is thought that the largest train ever seen west of the Missouri went over the Santa Fé trail during General Custer's Indian campaign in 1868. "In it were 800 army wagons, each drawn by six mules. When strung out four abreast for travel, as was often done, the train was over a mile in length."

The wagon trains earned large profits for their owners, though at times it happened that losses through wars with the Indians were so great that the profits of years were wiped out in a week or a month. One of the leaders in the business lost through Indians, in a single year, hundreds of thousands of dollars.

The charges of the overland freighters between Atchison and Denver averaged as follows:

Flour	9 cents per pound
Sugar	13½ cents per pound
Bacon and Dry Goods . .	15 cents per pound
Whisky	18 cents per pound
Glass	19½ cents per pound
Trunks	25 cents per pound
Furniture	31 cents per pound

The most famous of the owners of overland freighting trains was Ben Holliday, who paid a million dollars a year for feed for his animals, and received a million dollars a year from the government for transporting mail from Atchison to Placerville, California, and intermediate points.

This is only one chapter of many in the wonderful story of the winning of the West. It is well to have it in mind when we are being whisked over the plains in palace cars.

Source. ROOT and CONNELLEY. The Overland Stage to California. Published by the authors, Topeka, Kansas.

The tale of the development of the resources of the great West would be incomplete without the absorbing story of transportation on the country's vast natural waterways.

The first chapter in this story goes back to the days of La Salle, the builder of the first vessel on the Great Lakes.

CHAPTER XXXI

THE FIRST VESSEL ON THE GREAT LAKES

It is not easy for a person who has seen the Great Lakes as they are to-day, with their immense commerce, to picture them as they were when hardy explorers were pushing their way to the interior through the forests that almost surrounded them. These men looked with hungry eyes on the waters, longing to bring their vessels from the Atlantic up the St. Lawrence, and so continue their explorations by the easy water route. But Niagara blocked them. Of course many of the early missionaries, explorers, and fur traders took advantage of the Ottawa River, crossing over to the French River, and so entering Georgian Bay on Lake Huron, while others ascended the Toronto River to Lake Simcoe, and so across to Lake Huron; but they were not satisfied with such roundabout routes.

La Salle, especially, dreaming of the time when the Lakes would carry an "inconceivable commerce" (to use the words of Father Hennepin, his companion on many adventurous journeys), wished to explore the enticing bodies of water. So he asked leave to found colonies and conduct explorations as far west as Lake Superior. His king was not ready to approve the plan of colonization, but, with royal generosity, he gave permission to the adventurer to "labor at the discovery of the western parts of New France," if he was willing to pay all expenses out of his own pocket.

It was La Salle's idea to lead an expedition by water. To do this he had to build a vessel beyond the Niagara Falls barrier. Undaunted by the difficulties of construction in the wilderness, he made his plans at once.

An exploring company was sent by canoe up the Niagara River. In December, 1678, the party saw the falls, and were amazed and awe-struck; they had heard from the Indians of the grandeur of the sight, but the reality left them speechless. Turning from the stupendous spectacle, they selected a spot at the mouth of Cayuga Creek, for building the ship.

When La Salle was about to begin work, word came that the vessel on the way to the new

shipyard, laden with building materials, had been wrecked on Lake Ontario, and everything lost but anchors and cables. Nevertheless he determined to push the work. Thirty workmen were available. Two Indians made bark wigwams for



NIAGARA FALLS

From Hennepin's "*Nouvelle Découverte d'un Très Grand Pays*," 1697

the men, as well as a chapel for Father Hennepin, who had carried the altar on his back twelve miles from where they had left the canoes, below the Falls.

The Indians were not in favor of building "the wooden canoe," for they were afraid that the white men would interfere with their rich fur trade.

Fortunately for La Salle, most of the Iroquois who lived near the Niagara River were off on the war path; yet those who remained at home were able greatly to hinder the work. Spies were constantly in the shipyard. Once the blacksmith was attacked, but he successfully defended himself with



BUILDING OF THE GRIFFON

From the Hennepin of 1704

a red-hot bar of iron. When the vessel took shape under the sturdy hands of the workmen, word came through a friendly squaw of a plot to burn it at the stocks. It was necessary to keep a guard posted constantly.

Discouraged by these alarms, by weather so much colder than they had known at home, and by

the shortage of supplies, the workmen threatened to leave, but the masterly leader succeeded in persuading them to stay.

Finally, early in the spring of 1679, the vessel was launched in the Niagara River. It was of forty-five tons burden, and carried five cannons.

When the Griffon, as the vessel was named, was ready for its first voyage, La Salle found it necessary, owing to the strong current, to use towropes. Progress was easy on Lake Erie, but the Indians, to frighten the pioneers, had insisted that the lake was full of rocks and sands. A day of cautious voyaging showed the falsity of this report; then the voyage was continued without fear until the St. Clair Flats were reached. Here, again, towropes were a necessity, a dozen men hauling the Griffon into deeper water.

At Lake Michigan, or Lake Illinois, as it was called by both French and Indians, a cargo of furs was secured, and the Griffon was deeply laden. Dividing his men into two companies, La Salle left one company on board, with instructions to return to Niagara, from which point the furs were to be transported to market and sold for the benefit of his clamoring creditors. The intrepid leader and fourteen companions embarked in four canoes and pushed on into the wilderness.

But La Salle's creditors were never to reap the fruits of that voyage. The return trip to Niagara was barely begun, when a sudden storm caught the vessel unprepared. For four days the wind blew and the waves boiled. Whether the Griffon gave up the battle with the elements at once, or



BOWLDER AND TABLET ON THE SITE OF
THE GRIFFON SHIPYARD

after a long conflict, was never known. No member of the crew lived to tell the tale of the voyage.

During the hurricane La Salle and his men waited on shore, living on pumpkins and In-

dian corn and the flesh of a porcupine. Then, although fearing the worst for the Griffon, they took to their boats once more. Storm succeeded storm. For safety they went ashore at night. At first it was comparatively easy to do this, for the bluff was low, and they were able to find a kind of shelter from the snow and rain among the rocks and bushes. Later, when the bluff at their right grew higher, it was difficult to climb to the top, but this they were obliged to do, dragging their

canoes with them. When food supplies were all but exhausted they were glad to eat a little corn and a few wild berries. Near the site of Milwaukee they found the body of a deer, which had been killed by a wolf. With what eagerness they devoured the meat thus provided for them in the nick of time!

These are only hints of the privations endured by La Salle and his men. Father Hennepin was right in saying, "Those who shall be so happy as to inhabit that noble country cannot but remember with gratitude those who discovered the way by venturing to sail upon unknown lakes."

Source. CHANNING and LANSING. The Story of the Great Lakes. The Macmillan Company, New York.

More than one hundred years passed before the next great landmark in the history of transportation by water in the United States. Then came John Fitch, the Yankee clockmaker, brass-founder, silversmith, gunsmith, surveyor, and soldier, who built the first river steamboat.

CHAPTER XXXII

A DISAPPOINTED INVENTOR

The day will come when some more powerful man will get fame and riches from my invention, but nobody will believe that poor John Fitch can do anything worthy of attention.

Thus wrote a disappointed inventor who, seventeen years before Fulton's Clermont appeared in the Hudson, perfected a workable steamboat. For a period of three months this boat carried passengers and freight on the Delaware River out of Philadelphia.

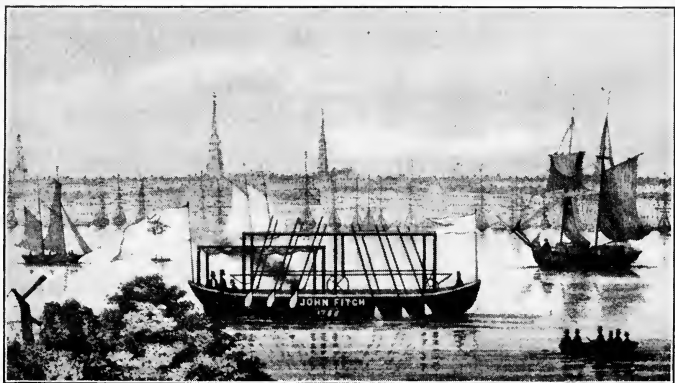
The inventor was John Fitch, who was born in Hartford, Connecticut, January 21, 1743, old style, or February 2, according to the revised calendar. When he was ten years old he was taken out of school and set to work. He was so fond of books, however, that he persisted in study before and after work. Books which his father felt unable to

afford were bought by the boy himself with money secured by extra work. One such purchase was made possible by raising his own crop of potatoes on waste land on his father's farm; the potatoes were planted on a holiday, when the rest of the family were away from home, and the patch was cultivated at noon and in the evening.

At seventeen, discouraged by the outlook on the farm, he resolved to go to sea. His capital was twenty-three shillings, of which his father had given him twenty. On his return he apprenticed himself to a clockmaker, who, being also a farmer, demanded that one half of the apprentice's time should be devoted to farm work. Unfortunately, the master did not carry out the terms of the indenture; he insisted on keeping young Fitch at work on the farm most of the time, and gave him little instruction in his trade. The apprentice's experience was equally unfortunate when his services were transferred to another clockmaker, with whom he remained until he was twenty. Then he secured his release on payment of £8, for which he had to go in debt, deciding that it was wiser to contract the debt than to waste more time with a man who refused to teach him according to promise. So he went out into the world, "a clockmaker who had never made a clock, a watchmaker

who had never taken a watch apart or put one together, and who had never seen the tools necessary for such delicate operations."

But of brass work he had some knowledge. He borrowed twenty shillings and announced himself as a brass-founder. So well did he succeed that



FITCH'S STEAMBOAT

Philadelphia in the background

in two years he had paid off his entire indebtedness of £20, and had saved £50. More than this, he was known as a successful clockmaker; he had taught himself by experimenting on every clock he could get for the purpose.

In consequence of business misfortunes the young manufacturer decided to leave home. For some time he tramped through New York and

New Jersey, earning his way by mending clocks. At Trenton he found employment at the shop of a silversmith, whose trade he soon picked up. However, business was so poor that he long lived on threepence a day. But, business gradually increasing, he was able to buy out the silversmith and became himself an employer, doing more work than the best of Philadelphia's silversmiths. By the beginning of the Revolutionary War he had saved £800.

For a time John Fitch served as lieutenant in a New Jersey company, but when his services were desired as a gunsmith he felt that he could be of more use at his shop than in the field. His establishment soon became a small arsenal, and his apprentices gave their entire attention to supplying the needs of the soldiers. This continued until the advance of the British made necessary the closing of the armory.

Fitch's further career during the war is clouded. He was accused of being a deserter, but the charge was answered by the statement that armorers were excluded from military service. He sought to make money by selling provisions to the army at Valley Forge, but the rapid depreciation of Continental currency impoverished him.

Disheartened by reverses and criticisms, the silversmith, who had learned the principles of surveying

when he was eleven years old, went to Kentucky to survey lands purchased with the scant funds left to him. After a time he was taken prisoner by the Indians, and compelled to go with them to Detroit. There he was delivered to the British.

With other prisoners he was taken by water to an island near the mouth of the St. Lawrence. Even in this unlikely place the Yankee silversmith contrived to make money. He had no tools except a single engraving implement, but he made others. An old brass kettle, bought from a soldier, furnished material for brass buttons. In seven months nine wooden clocks, three hundred pairs of brass sleeve buttons, and eighty pairs of silver buttons were made. Prices were low, but the ingenious man was able to buy many comforts, as well as to spend a dollar each week on sick prisoners. The industry was interrupted only by an exchange of prisoners and return to New York.

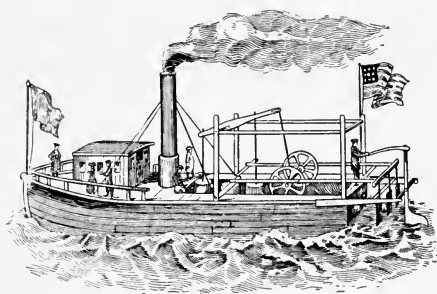
It was in 1785 that the idea of the steamboat first occurred to Fitch. The sight of a carriage drawn by horses led him to think of the possibility of a carriage propelled by steam. He had then never seen a steam engine. He declared that he did not know that such a thing was in existence. A week's thought led him to decide that steam carriages were impracticable, because of the roughness

of the roads. Then he began to think of a boat propelled by steam. The first model was built in 1785 with paddle wheels. The machinery was made of brass, while the paddle wheels had been made of wood by a student from Princeton College.

On January 13, 1848, Rembrandt Peale, then an old man, wrote a letter to a friend who had asked for his memories of the first trial, in Philadelphia. He said:

In the spring of 1785, hearing there was something curious to be seen at the floating bridge on the Schuylkill at Market Street, I eagerly ran to the spot, where I found a few persons collected, and eagerly gazing at a shallop at anchor below the bridge, with about 20 persons on board. On the deck was a small furnace, and machinery connected with a coupling crank, projecting over the stern to give motion to three or four paddles, resembling snow shovels, which hung into the water. When all was ready, and the power of steam was made to act, by means of which I was then ignorant, knowing nothing of the piston except in the common pump, the paddles began to work, pressing against the water *backward* as they rose, and the boat, to my great delight, moved against the tide, without wind or hand; but in a few minutes it ran aground at one angle of the river, owing to the difficulty of managing the unwieldy rudder, which projected eight or ten feet. It was soon backed off and proceeded slowly to its destination at Gray's Ferry. So far it must have been satisfactory to Mr. Fitch in this his first public experiment.

Because of the mechanical difficulties in the crude paddle wheels, it was resolved to abandon them in favor of oars or paddles to be arranged as in a boat propelled by man power, but moved in this case by steam. A boat on this principle was built in 1787, and was comparatively successful. The trial on the Delaware was witnessed by nearly



FITCH'S THIRD STEAMBOAT, 1788

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all the members of the Constitutional Convention then in session in Philadelphia.

In a later model, built in 1788, the position of the oars was changed to the stern, where they were made

to push against the water. Although this boat made a trip to Burlington, twenty miles from Philadelphia, it was seen that improvements were necessary. These were incorporated in the boat which was tested in 1790; it ran a mile on the Delaware, at dead water, in twelve minutes and a half.

So great was the success of the new model that it became a regular passenger and freight boat on the Delaware, running a total of between two and

three thousand miles at a speed of from seven to eight miles an hour, whereas Fulton's Clermont, seventeen years later, could accomplish little more than six miles an hour. On June 14 the *Federal Gazette* published the following announcement:

THE STEAMBOAT is now ready to take passengers, and is intended to set off from Arch Street Ferry in Philadelphia, every Monday, Wednesday and Friday for Burlington, Bristol, Bordentown & Trenton, to return on Tuesdays, Thursdays & Saturdays. Price for Passengers 2/6 to Burlington and Bristol, 3/9 to Bordentown, 5 s. to Trenton.

Plans were immediately made to build a larger boat, the *Perseverance*, so that two boats might be sent to Virginia in time to take advantage of the state's grant of exclusive rights to transportation on the Ohio River and its tributaries. Pennsylvania had already granted without conditions a similar right for waters under her control. The United States patent, signed by Washington, was not granted till August 26, 1791.

Vexatious delays hindered the work on the *Perseverance*. Enemies attacked Fitch, friends forsook him, rivals interfered with him, dire poverty added to his difficulties. It became impossible to complete the vessel in season to comply with the Virginia statute. Finally the inventor abandoned the enterprise.

Fitch, after a trip to France, retired to Kentucky, where, ill and disheartened, he took his own life. A friend at first proposed to put above the grave this inscription :

While living he declared
 " This will be the mode of
 crossing the Atlantic
 in time,
 Whether I shall bring it to perfection
 or not.
 Steamboats will be preferred to
 all other conveyances ;
 And they will be particularly
 useful in the Navy Yard, and on the
 Ohio and Mississippi."

The body of the inventor lies forgotten in Bardstown, Kentucky ; but the prophecy has been fulfilled.

Sources. THOMPSON WESTCOTT. Life of John Fitch, the Inventor of the Steamboat. J. B. Lippincott Company, Philadelphia.

Letter from Rembrandt Peale. Collection of the Historical Society of Pennsylvania.

WHITTLESEY. Life of John Fitch, Vol. VI, Second Series (Library of American Biography). Charles C. Little and James Brown, Boston, 1845.

The day foretold by John Fitch came quickly. Another inventor designed a steamboat that had none of the defects of the vessel which startled the residents of the Quaker City when it made its appearance on the Delaware. And he is known as the inventor of the steamboat.

CHAPTER XXXIII

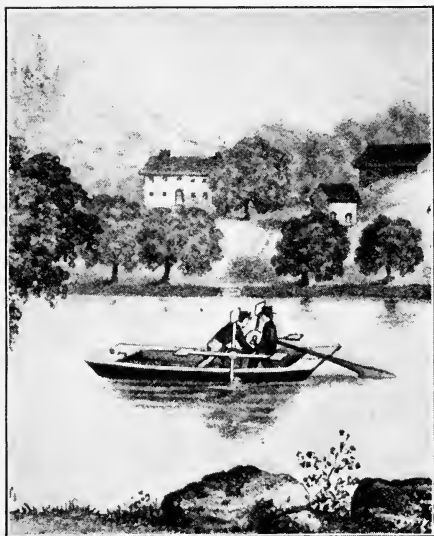
THE FIRST PRACTICAL STEAMBOATS

The power of propelling boats by steam is now fully proved. The morning I left New York there was not, perhaps, thirty persons in the city who believed the boat would ever be of the least utility, and while we were putting off from the wharf I heard a number of sarcastic remarks. This is the way in which ignorant men compliment what they call philosophers and projectors.

Thus, in August, 1807, Robert Fulton, honored as the inventor of the steamboat, wrote to Joel Barlow. He had just made the trial trip in the Clermont from New York to Albany, one hundred and fifty-four miles, in thirty-two hours. On condition that the speed should be at least four miles an hour, the legislature had promised to him and his partner "exclusive right and privilege of navigating all kinds of boats by steam on all the waters of the State, for a term of twenty years." After the successful trial, the further promise was made

that the monopoly would be extended for a period of five years for each new boat put on the river by the inventor, until a total of thirty years was reached.

There was much excitement on the river when



FULTON'S FIRST EXPERIMENT WITH
PADDLES, 1779

Drawn by Reigart

the Clermont began to make regular trips. There were many sailing vessels on the stream, whose captains and owners, seeing in the new venture a dangerous rival, began to interfere with the safe running of the boat, until it became necessary for the legislature to threaten with imprisonment the guilty persons.

That terror, as well as jealousy, was excited by the passage of the Clermont, is shown by an extract from a letter written by one who lived on the river:

The crews of many sailing vessels shrank beneath their decks at the terrific sight, while others prostrated themselves

and besought Providence to protect them from the approach of the horrible monster which was marching on the tide and lighting its path by the fire that it vomited.

The next year, 1808, the *Clermont*, improved and enlarged, was renamed the *North River*. The following description of her first voyage was written by a passenger:

At the hour appointed for departure, 9 A.M., Chancellor Livingston, Fulton's partner, with a number of invited friends, came on board, and after a good deal of bustle, and no little noise and confusion, the boat was got out into the stream and headed up the river. Steam was put on, and sails were set, for she was provided with large square sails, attached to masts, that were so constructed that they could be raised or lowered, as the direction and strength of the wind might require. There was at this time a light breeze from the south, and with steam and sails a very satisfactory rate of speed was obtained, and as the favorable wind continued we kept on the even tenor of our way . . . and the boat proceeded to Albany, where she arrived at two or three o'clock P.M.

This was thought to be a wonderful performance, for the trip had required but twenty-nine hours instead of thirty-two. The fare was seven dollars. For twenty miles or less the charge was one dollar.

A glimpse of life on the river is given in a letter by Reginald Fowler, an Englishman, after a trip on one of the Hudson River boats in the

early days, when the first models had been greatly improved on. He wrote:

The Americans take great pride in these boats, and spare no expense on them. In English steamboats the ladies are usually worse accommodated than the stronger sex. In America this is not the case; the best part of the boat is used for their accommodation. All must give way to them. No man is admitted into the dining saloon until all the ladies are seated at the table, when they rush in pell mell. After that, should a lady require either, the chair is, without ceremony, taken from under you, and the plate from before you. The Americans pride themselves on their courtesy to Women, and consider it a sign of high civilization.

Several of the earlier boats tried to attract passengers by the use of a steam calliope, on which tunes were played during the voyage up or down the river. The sound could be heard for a long distance. But the practice was abandoned when it was found that the operation of the calliope required so much steam that the speed of the boat was materially lessened.

Naturally, as soon as it was discovered that steamboat navigation was practicable and profitable, rival owners tried to force their way into the river trade. In 1812 a boat built by Fulton himself for a man who planned to use it on Long Island Sound was transferred to the river while war

was in progress, because of fear of Great Britain. As this was an unusually good vessel, the price of passage was put at ten dollars. A young Dutchman, Cornelius Vanderbilt, who had been running sail ferryboats between Staten Island and New York, secured several steamboats, and advertised still better accommodations and a lower fare to Albany.



THE CLERMONT

David Buckman, one of the historians of river activity, who was born in a house built of timbers from the wreck of an early steamboat, has picturesquely told of what followed the opening of the rival lines:

There was a great strife to secure patrons. The town was placarded with bills more gaudy and enticing than the pictures of a sideshow at a circus. "Runners" for the rival steamboat lines made the water front a lively place. A man or a woman with a carpetbag became the

legitimate subject of capture. Sometimes the man went by one line and his satchel by another. Every inducement was offered, and nervous old ladies, who were fearful of bursting boilers, were even assured by these runners that their boats had no boilers! The high rate went down to one dollar for the trip, and eventually to ten cents; subsequently, in a later competition for passengers, one could go to Albany or Troy without paying any fare.

The monopoly was, after many years, broken. The state of New Jersey fought in the courts for her rights on the Hudson. Daniel Webster conducted the case for New Jersey, and secured a verdict in her favor from the Supreme Court.

Capitalists now became interested in river navigation. Millions were invested in steamboats, each one of which was more palatial and speedy than its predecessor, until thousands of passengers were carried in a single hull, and it became possible to make the one hundred and fifty-four miles between the cities in less than seven hours.

Thus the history of navigation on the Hudson is much like that of transportation on the Mississippi and its tributaries. Yet the boats on this Eastern river never did the important work of their Western successors. The surrounding country was well settled long before the Clermont made her first voyage; but in the West and South the

steamboats were invaluable in carrying settlers to their new homes, and in helping in the development of a dozen states. In other words, on the Hudson the boats were a convenience; on the Ohio, the Mississippi, and the Tennessee they were an absolute necessity. The invention of Robert Fulton was perfected just in time to be of greatest use to the West and the South.

Sources. DAVID L. BUCKMAN. Old Steamboat Days on the Hudson. The Grafton Press, New York.

J. FRANKLIN REIGART. The Life of Robert Fulton. C. G. Henderson & Co., Philadelphia, 1856.

Ten years after Robert Fulton's successful experiment on the Hudson, the pioneer steamboat on the Great Lakes, the Walk-in-the-Water, made its first voyage on Lake Erie, attaining a speed of from eight to ten miles an hour. Thus an important chapter in the development of the West was begun.

CHAPTER XXXIV

EARLY STEAMBOAT DAYS ON THE GREAT LAKES

It is related in an old chronicle that when Fulton's steamboat, the Clermont, was making its first trip up the Hudson, "an Indian standing on the river bank, gazing long and silently at the boat moving upstream without sails, finally exclaimed, 'Walks in water!'" The man of the forest saw the boat stemming the current, unaided by any power known to him. He observed the paddle wheels slowly revolving, and instinctively comprehended that when a paddle struck water there was a step forward.

When the first steamer was built for Lake Erie traffic this story was recalled, and the name "Walk-in-the-Water" was chosen by its owner and painted on the paddle boxes. This name was more picturesque than useful, since it was too much of a

mouthful for ordinary use. The new marvel was therefore referred to simply as "the steamboat."

When the boat was first seen by a Frenchman, he gazed at it curiously, then exclaimed to his wife, "Jeanne, Jeanne, what are the Yankees sending us now but a sawmill!"

It is interesting to read the account which is given by an eyewitness of the Walk-in-the-Water's first voyage:

On the twenty-fourth day of August, 1818, an entire novelty — the like of which not one in five hundred of the inhabitants had ever seen — presented itself before the people of Cayahoga County. On that day the residents along the lake shore of Euclid saw upon the lake a curious kind of vessel making what was considered very rapid progress westward, without the aid of sails, while from a pipe near the middle rose forth a dark cloud of smoke, which trailed its gloomy length far into the rear of the swift-gliding mysterious traveler on the deep. They watched its westward course until it turned its prow toward the harbor of Cleveland; and then turned back to their work. Many of them doubtless knew what it was, but some shook their heads in sad surmise as to whether some evil powers were not at work in producing such a strange phenomenon as that on the bosom of their beloved Lake Erie. Meanwhile the citizens of Cleveland, perceiving the approach of the monster, hastened to the lake shore to examine it. "What is it? What is it? Where did it come from? What makes it go?" queried one and another of the excited throng.

"It's the steamboat! That's what it is!" cried others in reply. "Yes! Yes! It's the steamboat," was the general shout, and with ringing cheers the people watched the first vessel propelled by steam that had ever traversed the waters of Lake Erie.

When the steamboat was loaded to capacity, it carried one hundred cabin passengers and more than this number of steerage passengers. These passengers were delighted with the speed of eight or ten miles an hour.

It was reported among the Indians that this rapidly moving vessel was drawn through the water by sturgeons. A few venturesome red men, determined to learn the truth, went on board at Detroit and found their way to the engine room. The engine let off steam under great pressure. No wonder the Indians "started with a spring, a leap and a bound, and ran off the boat, up the hill, and through the village, nor did they lessen their speed until they were out of sight of the white man's 'big canoe.'"

Forty-two hours were required for the voyage from Buffalo to Detroit, and the fare was eighteen dollars.

The people along the shore of the lake found that they could look for the new boat at about the time of its advertised appearance. Half an

hour before its arrival a small cannon placed on the deck would be fired as a warning, for there were no whistles in those days. Again the cannon would be fired as an indication that the boat was about to continue its journey. The signal of the



THE WALK-IN-THE-WATER

cannon was used until one day, in a storm, the gun broke from its lashings and sank in the lake.

Passengers were not always able to board the steamer when, attracted by the firing of the cannon, they went to the beach. There were no piers and no harbors, and passengers were received and deposited by means of boats. Women and children were carried through the waves between the boats

and the shore on the backs of brawny sailors. When, therefore, the wind and waves were high, the boat could do nothing but continue on its way. The passengers who were carried beyond their destination fumed in vain; they soon learned that they must make the best of their bargain.

For three years this first steamer made regular trips. Then came a storm which compelled the captain to anchor near the shore. The storm increased; the vessel was torn loose from its anchorage and was driven ashore so far that the engineer was able to wade to land. The passengers and all their effects were saved. But the vessel was a total wreck, though the engines and boilers were found to be uninjured. They were transferred to the successor of the Walk-in-the-Water, which was built at once.

The new boat was built at Buffalo, though the citizens of Black Rock, then a more important port not far away, argued that Buffalo Creek was too shallow for the purpose. Buffalo people thereupon promised to dredge the creek, and accordingly they made a crude scraper out of a log "sawed in half lengthwise and armed at the edge with large saw blades. This crude and unwieldy device was floated into place by a crane and dropped to the bottom. It was then dragged out

by oxen." The work was done by the citizens of the town, who thus laid the foundations of Buffalo's greatness.

This was the beginning of the immense fleet of steam vessels that to-day make the Great Lakes the busiest waterway in the world.

Source. CHANNING and LANSING. The Story of the Great Lakes. The Macmillan Company, New York.

After their triumphs on the Hudson River, Robert Fulton and his partner turned their attention to the Ohio and Mississippi rivers. Soon the day of the unwieldy flatboat, the picturesque barge, and the popular keel boat was at an end. At last the way to the West was open.

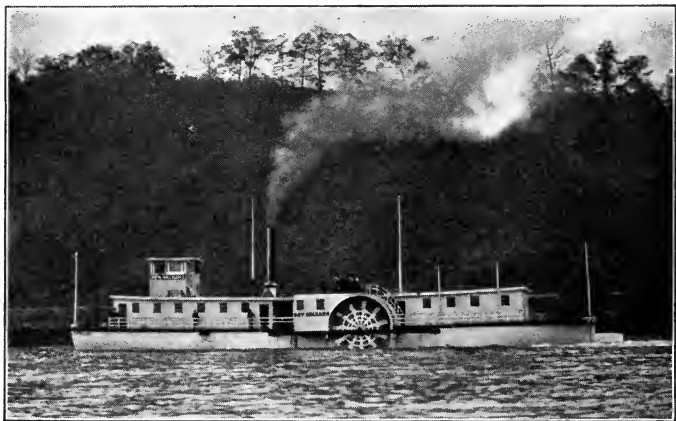
CHAPTER XXXV

THE FIRST STEAMBOAT ON THE OHIO

Until 1811 transportation on the Ohio and Mississippi rivers was by means of keel boats, barges, and flatboats. The keel boat is described as being "long and slender, sharp fore and aft, with a narrow gangway just within the gunwale, for the boatmen as they poled up the stream" when they were unable to use their oars. Sometimes a low house covered the keel boat, and it was then called a barge. The flatboat was "an unwieldy box, and was broken up, for the lumber it contained, on its arrival at its destination." Of course it was useful only in going downstream. Many of the early immigrants loaded their goods on flatboats, traveled by water as far as possible, then sold their means of transportation, and completed their journey by land.

The success of Fulton's Hudson River steamboat led many people to wonder if boats could not

be constructed for use west of Pittsburgh. The fact that ever-increasing multitudes were seeking new homes in the West made steamboats on the Ohio and Mississippi seem very desirable. But those who knew the rivers best felt that owing to



THE NEW ORLEANS

From a reproduction

the treacherous currents and the shifting channels, steamboat traffic would be impossible.

Finally it was decided by Nicholas J. Roosevelt, Chancellor Livingston, and Robert Fulton to make a careful study of these currents and, if the results were favorable, to build a boat run by steam.

In 1809 Mr. Roosevelt, who agreed to make the necessary investigations, floated on a flatboat

to New Orleans, carrying on his investigations as he went. Mrs. Roosevelt, who accompanied her husband, said of the trip:

The journey in the flatboat commenced at Pittsburgh, where Mr. Roosevelt had it built; a huge box containing a comfortable bedroom, dining room, pantry, and a room in front for the crew, with a fireplace where the cooking was done. The top of the boat was flat, with seats and an awning. We had on board a pilot, three hands, and a man cook. We always stopped at night, lashing the boat to the shore. The row boat was a large one, in which Mr. Roosevelt went out constantly with two or three of the men to ascertain the rapidity of the ripple or current.

Mr. Roosevelt stopped at Cincinnati, Louisville, and Natchez, then the only places of any importance between Pittsburgh and New Orleans. To the leading men of these towns he stated his belief that steamboats on the Ohio and Mississippi could be run successfully. River men as well as business men laughed at him, declaring that he was an idle dreamer.

But he went ahead with his arrangements, for he had made up his mind to build a steamboat on his return to Pittsburgh. So confident was he of the ultimate success of the project that he purchased and opened coal mines on the banks of the Ohio, and arranged that heaps of coal should be

stored on the shore, in readiness for the vessel he was sure would need the fuel for its engines.

From New Orleans he went to New York by sea. There capitalists were interested in his report. In 1811 he found himself in Pittsburgh, ready to work on the steamboat.

Men were sent to the forests to cut timber for ribs, knees, and beams. These were rafted down the Monongahela to the shipyard. Planking was cut from white-pine logs in the old-fashioned saw pits. A shipbuilder and the mechanics required were brought from New York.

Curious visitors watched the growth of the frame and prophesied failure. But Mr. Roosevelt smiled at their doubts.

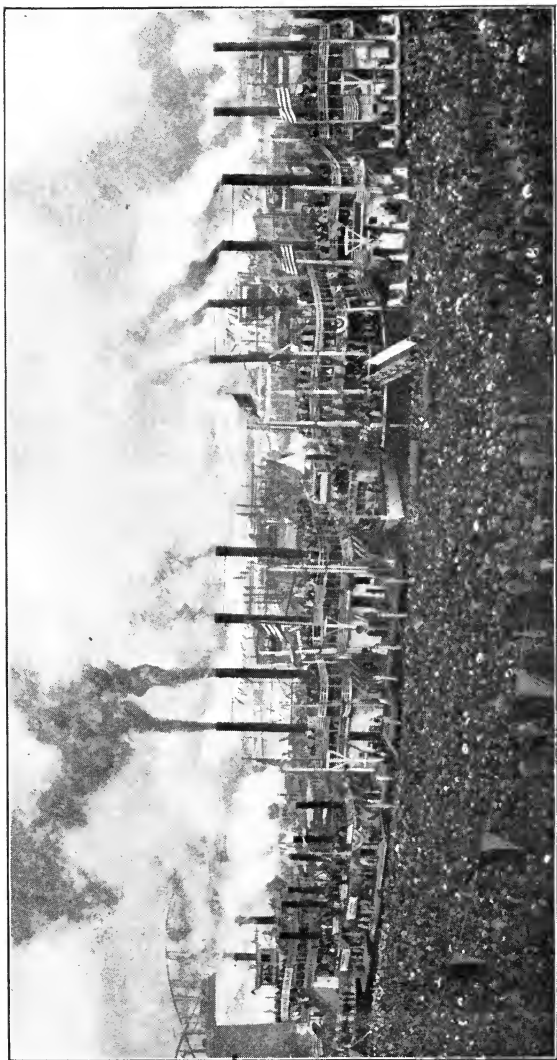
At last the boat, one hundred and sixteen feet long, was ready, and was christened the New Orleans. There was a ladies' cabin containing four berths. One of these Mrs. Roosevelt announced her intention of occupying. Friends in Pittsburgh appealed to her to give up the dangerous project, but she insisted that there was no danger; she believed in her husband.

"Mr. Roosevelt and herself were the only passengers," wrote J. H. B. Latrobe, Mrs. Roosevelt's brother, in his account of the trip. "There was a captain, an engineer, the pilot, six hands, two

female servants, a man waiter, a cook, and an immense Newfoundland dog. Thus equipped, the New Orleans began the voyage which changed the relation of the West — which may almost be said to have changed its destiny."

Eager watchers at Pittsburgh saw the vessel swing into the stream and disappear round the first headlands; their prophecies of disaster at the very start had not been fulfilled. The pilot, the captain, and the crew had their misgivings, but these were soon set at rest by the behavior of the boat.

At Cincinnati, which was reached on the second day after leaving Pittsburgh, an enthusiastic crowd welcomed the vessel. But still there were doubters. "Well, you are as good as your word; you have visited us in a steamboat," one of them said. "But we see you for the last time. Your boat may go down the river; but as to coming up it, the very idea is an absurd one." The keel-boatmen shook their heads as they crowded around the strange visitor. "Some flat-boatmen whose ungainly arks the steamboat had passed a short distance above the town, and who now floated by with the current, seemed to have a better opinion of the newcomers. They proposed a tow in case they were again overtaken! But as to the boat's returning, all agreed that could never be."



REVIEW OF STEAMERS, CENTENNIAL CELEBRATION OF OHIO RIVER NAVIGATION, PITTSBURGH, 1911

The doubters in Cincinnati were convinced when the boat returned from Louisville, having been stopped by the lack of sufficient water to carry it over the Falls.

When the stage of water was right, Louisville was safely passed. Then began days of anxiety, not due to the steamer's failure to mind her helm, but to the great earthquake of 1811, which struck terror to the hearts of thousands, changed river channels, and worked other transformations in the physical appearance of the country for hundreds of miles.

At New Madrid, Missouri, scores of people begged to be taken on board. They reported that the earth had opened and that many houses and their inhabitants had been swallowed up. Other settlers hid from the boat, thinking that its appearance was a part of the calamity that had overtaken the town.

Indians too were frightened at the approach of the steamer. They felt that the smoke from her stacks had something to do with the heavy atmosphere which accompanied the earthquake, and that she was to be accounted for in much the same way as the great comet that had appeared in the heavens. Once, when the sound of escaping steam was heard, it was thought that the comet had fallen into the river.

One night the New Orleans anchored just below an island. In the morning the vessel was in the middle of the river. At first it was thought that she was adrift. But it was found that the hawser with which the vessel had been moored still held. Then it was evident what had happened: during the night the island had disappeared, having been broken up by an earthquake. Fragments of sod, earth, and floating trees proved this.

At last the New Orleans passed out of the field of the earthquake, and once more there was quiet. Natchez and New Orleans were reached in good time, and the voyage of the first steamboat on the Ohio and Mississippi was ended.

Source. J. H. B. LATROBE. The First Steamboat in Western Waters
Published by the Maryland Historical Society.

After the steamboat came the railway. Many laughed at the dreams of enthusiasts who said the new means of conveyance would displace the canals and that railways would soon be seen "meandering" everywhere. But the dreamers persisted, and the fourth chapter in the story of American transportation was begun.

CHAPTER XXXVI

EARLY RAILROAD DREAMERS

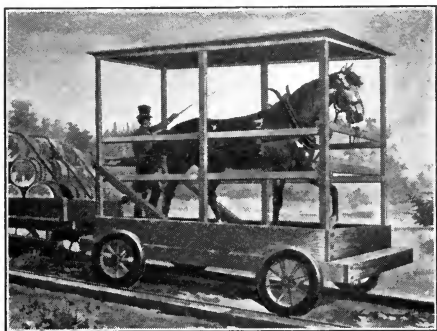
The introduction of steamboats on the Ohio and Mississippi caused a rapid increase in the trade of the East with the West. Cincinnati, Louisville, and New Orleans grew in importance. Cities of the East became rivals for the trade of these important centers, and improvements in transportation were planned by many of them. Each wanted to grow, even at the expense of its neighbor.

New York's plans to capture the trade of the West included the building of a system of canals connecting the Hudson River and the Great Lakes. By October, 1825, it was possible to transport freight from New York City to Utica, by means of the Hudson River and the Erie Canal.

Already Baltimore had an advantage because of the great Cumberland Road, and she planned to increase this advantage by other public works.

Citizens of Philadelphia were eager to perfect a system of canals and roads as far west as Pittsburgh. Many pamphlets were printed urging the importance of various routes, and the necessity of action if Philadelphia were to distance its only rivals, "New Orleans, Baltimore, and New York."

Some of these canals were built. But there were those who argued that instead of canals, railroads should be built. A curious pamphlet published August 1, 1825, compared the cost



HORSE-DRIVEN LOCOMOTIVE, BALTIMORE
AND OHIO RAILWAY, 1830

of transporting freight by railroad and by canal, and showed that the cost by rail would be much less.

In his estimate the author spoke of a railway where horses are employed as the moving power, on which one man "could direct 7 horses, a number sufficient to transport 100 tons 3 miles per hour."

Then he added what must have seemed, at that time, a daring reference to a steam locomotive which had been tested in England. "The engine was of eight horse power, and consumed five pecks

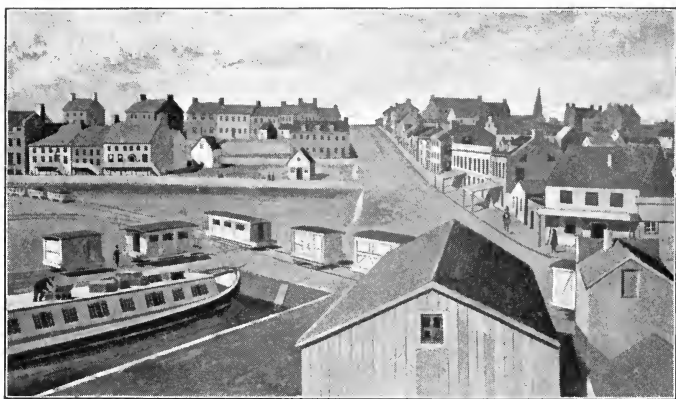
of coals every hour, or ten bushels for eight hours. It drew, in addition to its own weight, which was five tons, 32 tons and 8 cwt. three miles and three-quarters per hour." He estimated that with such a locomotive, on a well-built roadbed, freight could be carried one hundred miles in twenty-six and one-half hours!

After making this somewhat startling comparison, the author triumphantly added:

May we not confidently expect the period when canals will no longer be *generally* used; and that rail roads will be known as the most rational medium of conveyance? We shall then behold them meandering through every district where man has fixed his habitation. The inhabitants of America, from Mexico to Hudson's Bay—of Astoria on the Pacific Ocean, and Philadelphia on the Atlantic—will, by this invention be converted into neighbors; and the blessings of commercial intercourse be universally diffused; binding together our species in peace and friendship, by the indissoluble band of community of interest.

Public-spirited men in New York were not idle. They proposed many plans for railways which would pass Philadelphia by. One of the most curious of these proposals was for the Atlantic and Michigan Railway, made in a pamphlet published in 1829. The route was to be through northern New Jersey, southern New York, northern Ohio,

Indiana, and Illinois, to the Mississippi River at Rock Island. No attention was paid to existing cities. Even Cleveland, Sandusky, and St. Louis were disregarded. There was no thought of going near Chicago, for no one had begun to dream that Chicago would be of importance. It was not



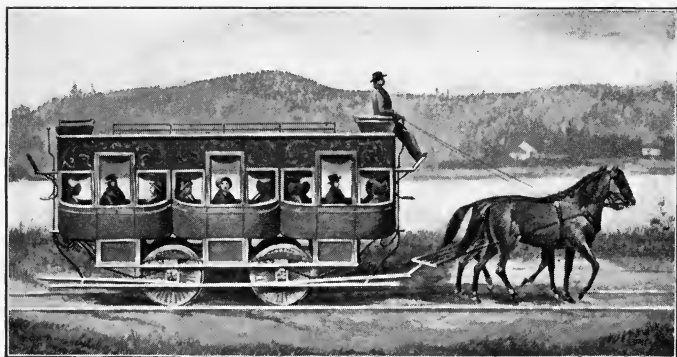
JUNCTION OF PENNSYLVANIA STATE CANAL AND THE RAILROAD

even proposed to start at New York, but at a point near by, which could be reached "by steam ferry-boats."

It was argued by the projectors that this railway would "be far more beneficial in its effects on the intervening country, and on our national prosperity, than to turn the Mississippi itself into the same course," and they declared that it "would open to

immediate occupation immense tracts of the public lands, of the most exuberant fertility.”

One early Pennsylvania enthusiast wrote of the possibility of building a railroad on piles; he urged this as a cheap method of construction. But it was in Ohio that this method was first tried. In



STAGECOACH ON RAILS

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1836 plans were made for the Ohio Railroad from the Pennsylvania state line to what is now Toledo, a distance of one hundred and seventy-seven miles. After three years of preparation work was begun. The first pile was driven near Fremont, Ohio. This method of construction has been described by C. P. Leland:

For the use of the road, ground one hundred feet in width was cleared. . . . The piles were driven by a machine

. . . the width of the track. . . . A circular saw . . . cut the pile to the proper grade, when the driver was moved and the operation repeated. These machines employed eight men and drove about forty miles per day, covering some twenty rods in distance. Upon the head of each pair of piles was fitted a tie. . . . Half a pint of salt was deposited in the auger hole of each pile, which, permeating the wood was expected materially to preserve the same from decay. A locomotive saw-mill upon the track, and behind the pile-driver, attended by three men, prepared the rails at the rate of nine hundred lineal feet per day. . . . On the wood stringers thus provided were to be placed iron ("strap") rails, of the weight of twenty-five tons to the mile. Behind all, upon the prepared track, was a foundry house for the workmen, which moved with the rest of the establishment.

The historian says that this was "certainly a unique railroad-construction-circus. Its like was never seen before or since."

The railway company soon discontinued work, and "the railway on stilts," as it has been called, was never in use.

Fifty years later some of the piles were still pointed out to curious visitors.

Sources. C. P. LELAND. The Ohio Railroad (Tract No. 81, Western Reserve Historical Society). Cleveland, Ohio.

Facts and Arguments in Favor of Adopting Railways in Preference to Canals in the State of Pennsylvania. Philadelphia, 1825.

LONGLEY BISHOP. The State Works of Pennsylvania. Yale University Press.

With fear and trembling the first steam locomotives were tested. Would they run? Would they stay on the track? Would they prove safe? One queer contrivance, after frightening the children and discouraging the directors of a railroad, was left to rust and go to pieces. But other experiments had a more fortunate outcome.

CHAPTER XXXVII

TESTING EARLY STEAM LOCOMOTIVES

The first locomotive in the United States came from England. An American engineer, Horatio Allen, was sent to England by the Delaware and Hudson Canal Company, and ordered four locomotives, one of which was from the shop of George Stephenson, England's first great locomotive builder.

One of these locomotives, the Stourbridge Lion, was shipped from New York, by river and canal, to be tested on the sixteen-and-a-half-mile road of the Delaware and Hudson Company from Honesdale to Carbondale.

Curious crowds were present to witness the trial, which was made on August 8, 1829. Business was at a standstill; everybody took a holiday because of the great event. Excitement was increased when a cannon, which had been borrowed for the occasion, burst after a few rounds had been fired.

Mr. Allen, who had brought the Stourbridge Lion from England, was its engineer. Years later he told in public this story of the trial:

It was on the banks of the Lackawaxen, at the commencement of the railroad connecting the canal of the Delaware and Hudson Canal Company with the coal mines, and he who addresses you was the only person on that locomotive. The circumstances which led to my being alone on the engine were these:

The road had been built in the summer; the structure was of hemlock timber with rails of large dimensions notched on caps placed far apart. The tube had cracked and warped from exposure to the sun.

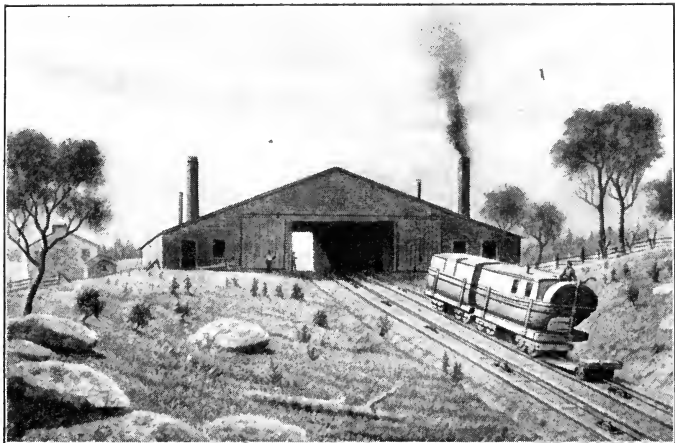
After about three hundred feet of straight line the road crossed Lackawaxen Creek on trestlework about thirty feet high, and with a curve of about one hundred and fifty to four hundred feet radius. The impression was very general that the iron monster would break down the road, or that it would leave the track at the curve and plunge into the creek. My reply to such apprehension was that it was too late to consider the probability of such occurrences; that there was no other course but to have a trial made of the strange animal which had been brought there at great expense, but that it was not necessary that more than one should be involved in its fate; that I would take the first ride alone, and the time would come when I should look back to the incident with great interest.

As I placed my hand on the throttle valve handle I was undecided whether I should move slowly or with a fair degree of speed, but holding that the road would prove

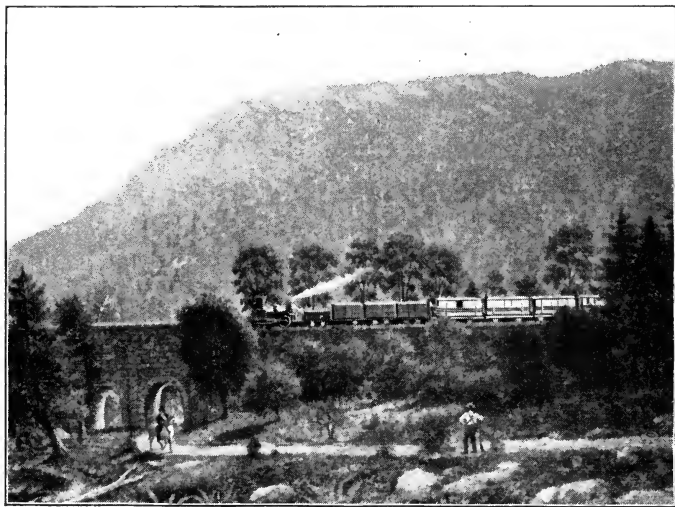
safe, and preferring, if we had to go down, to go handsomely, and without any evidence of timidity, I started with considerable velocity, passed the curves over the creek safely, and was soon out of hearing of the vast assemblage present. At the end of two or three miles I reversed the valve and returned without accident to the place of starting, having made the first locomotive trip on the western hemisphere.

The engineer and the directors were convinced that if the power for the cars was to be supplied by a locomotive, the wooden rails then in use would have to be replaced by iron rails. Since they could not afford to make the exchange, they turned their thoughts again to mules and horses, with which they had been content until word reached them of the success of the locomotive in England.

The Stourbridge Lion was run off the rails near the canal lock, where it was permitted to stand, an object of dread to all the children in the neighborhood, who made long detours to avoid passing the monster. When winter came, a rough board shed was built over it, but curious hands soon tore down planks enough to give an unobstructed view. There the Stourbridge Lion stood for fourteen years. By that time so many parts had been broken off and carried away that it was useless as a locomotive. Then the boiler was taken to the Carbondale shop of the company to supply steam for a stationary engine until it was worn out, when it was consigned to the ignominious oblivion of the scrap heap.



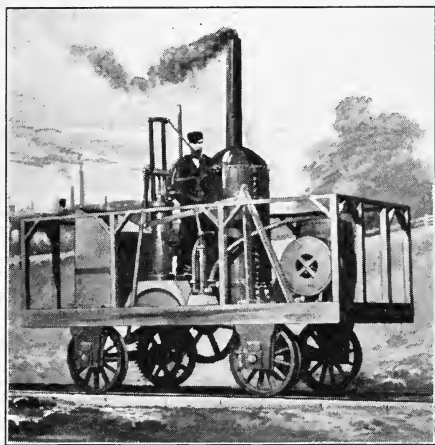
CANAL BARGE AT THE SUMMIT OF THE ALLEGHENY PORTAGE
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OLD STATE PORTAGE RAILWAY, CROSSING ALLEGHENIES
 Reproduced by permission of the Philadelphia Commercial Museum

The other locomotives, brought from England at such great cost, were never even tested; indeed, their wheels never rested on the rails. The last known of them is that they were put in a storage warehouse in New York City.

But it was only a few months after the trial of the Stourbridge Lion that the locomotive won its right to stay on an American railway.



THE TOM THUMB

On August 28, 1830, on the Baltimore and Ohio Railway, the Tom Thumb, built by Peter Cooper, made a trial trip. This was not a working locomotive, but only a work-

ing model, built to show the discouraged directors that steam power would solve their difficulties. They were doubtful if a steam locomotive could run around the sharp curves on the line, but Mr. Cooper told them he "could knock together a locomotive which would get a train around the Point of Rocks."

This is the story of the building of the locomotive as told by Mr. Cooper:

I told them that if they would hold on a little while, I would put a small locomotive on the road which I thought would demonstrate the practicability of using steam engines on the road, even with all the short turns in it. I got up a small engine for that purpose, and put it on the road, and invited the stockholders to witness the experiment. After a great deal of trouble and difficulty in accomplishing the work, the stockholders came and thirty-six men were taken into a car, and, with six men on the locomotive, which carried its own fuel and water, and having to go up hill eighteen feet to a mile, and over all the short turns around the points of rocks, we succeeded in making the thirteen miles, on the first passage out, in an hour and twelve minutes; and we returned from Ellicott's Mills to Baltimore in fifty-seven minutes.

Encouraged, the directors decided to adopt steam for the road. Other engines were built. The problem of how to go around short curves was solved by the invention of an improved truck.

Mr. Cooper's quiet boast, "my contrivance saved the road from bankruptcy," was justified. His Tom Thumb had seen service sixty-six days before the trial of the first permanent locomotive.

Sources. CARTER. When Railroads were New. Henry Holt and Company, New York.

RAYMOND. Peter Cooper. Houghton Mifflin Company, Boston.

In the early days of the railroad a man who jeered at the plans of railway builders declared that rapid railway travel would develop a new brain disease. Business men would be so befuddled that they would forget their destination and would have to write home to find it. They would be so dizzy on leaving the train that they would dash headforemost into the nearest obstacle, and would be badly hurt.

Yet Americans were not to be deterred from railroad building by any such prophecies of disaster.

CHAPTER XXXVIII

A PIONEER RAILROAD

In 1813 Oliver Evans of Pennsylvania made a prophecy which was looked on as the dream of a half-crazed man. He said:

The time will come when people will travel in stages moved by steam engines, from one city to another, almost as fast as birds can fly, fifteen or twenty miles an hour. Passing through the air with such velocity will be the most exhilarating exercise. To accomplish this, two sets of railways will be laid, so nearly level as not to deviate more than two degrees from the horizontal, made of wood or iron, on smooth paths of broken stone or gravel, with a rail to guide the carriages so they may pass each other in different directions, and they will travel by night as well as by day. Passengers will sleep in these stages as comfortably as they now do in steam barge boats. Twenty miles an hour is about thirty-two feet a second, and the resistance of the air

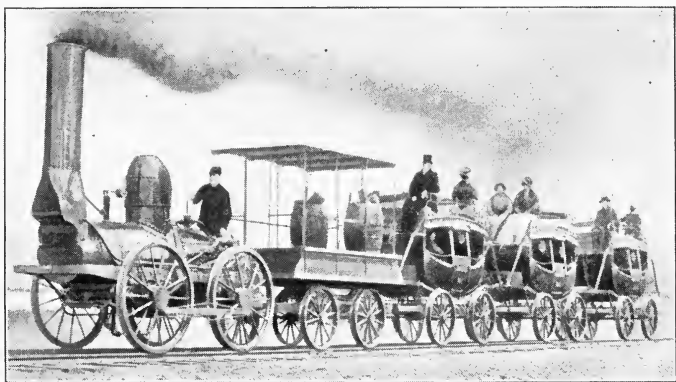
about one pound to the square foot, but the body of the carriage will be shaped like a swift swimming fish to pass easily through the air. The United States will be the first nation to make the discovery and her wealth and power will rise to an unparalleled height.

In response to such prophecies there came from England forecasts of dreadful things that would happen if this reckless traveling were ever indulged in. One man wrote:

Reader, how would you like to be put in a box like a coach or a sedan and be dropped out of the window of the fifth or sixth flat of a house. Sixty-six miles an hour is the highest velocity attained by falling bodies in one hundred feet. Even supposing that means were found to abate one-half of the violent shock in stopping, enough remains to terrify considerate men from risking their persons in such species of conveyance. Till we have bodies of brass or iron, or better methods of protecting them than we have now, it is preposterous to talk of traveling fifty or sixty miles an hour as a practical thing.

In spite of all such forebodings, railroads were built. In Massachusetts, Pennsylvania, and elsewhere horse-power railways were constructed, and the people who used them thought them marvels of speed. But the honor of having the first railroad to declare for steam power belongs to the South. The Charleston and Hamburg Railroad was chartered by the South Carolina legislature

May 12, 1828, to build from Charleston to the Savannah River, one hundred and thirty-six miles. Horatio Allen, the chief engineer engaged by the new line, at a meeting of the board of directors in 1830, recommended the adoption of the steam locomotive, for he declared that "there was no



THE DE WITT CLINTON AND THE FIRST TRAIN IN NEW YORK STATE, 1831

reason to expect any material improvement in the breed of horses, but the man was not living who knew what the breed of locomotives was to place at command." The directors had experimented in the use of sail power, and had found this unsatisfactory. They had also paid five hundred dollars to the man who devised the best scheme for drawing cars by horses, but they were not satisfied

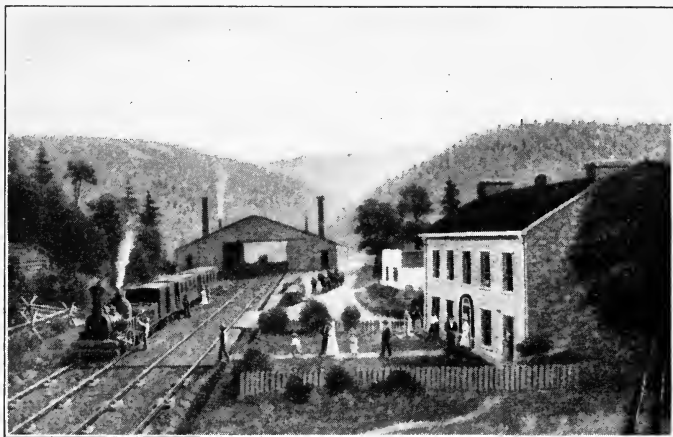
with the performance of the prize contrivance, although this enabled one horse to draw a car with twelve passengers at a speed of twelve miles an hour. So they were readily persuaded to adopt the suggestion of their engineer.

The engine built for the new road, the first locomotive constructed in America, was called "The Best Friend of Charleston." It had an upright boiler that looked like a gigantic bottle. The smoke escaped through openings in the sides of the boiler.

The trial trip was made on November 2, 1830. "The wheels proved to be so weak that one of them sprang out of shape and threw the engine into the ditch on the return trip. A second trip was made on December 14, and a third on the following day, when the Best Friend proved to possess power double the contract requirements. It was able to make sixteen to twenty-one miles an hour with forty or fifty passengers in four or five cars, and to attain a speed of thirty-five miles an hour without cars."

The engineer on these trial trips, named Darrell, the foreman in a Charleston machine shop, was so delighted with his experience that he gave up his job as machinist to become the first regular locomotive engineer in America. The Best Friend

came very near killing him a few months later. Not liking the noise of steam escaping from the safety valve, the negro fireman fastened it shut. The boiler exploded, scalding Darrell severely and so injuring the fireman that he died two days later. After that the locomotive was regarded with



PASSENGER STATION AND HOTEL IN THE ALLEGHENY MOUNTAINS

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suspicion. For a long time a "barrier car" piled high with cotton bales was interposed between the locomotive and the train to protect passengers from possible explosions.

Regular passenger service was instituted January 15, 1831. Two coaches were attached to the engine of the first train. These, like most of the

early passenger cars, were really stagecoaches on wheels. At that time no one thought of departing from this design.

A bride and groom from New York state were visiting friends in Charleston at the time. When the bride heard that a steam locomotive was to make its first trip drawing a trainload of passengers, she begged to go along. She was so enthusiastic over the experience that on her return home she continued to talk about it. Her enthusiasm aroused the interest of her father-in-law, who had long been interested in a plan to provide transportation facilities for central New York by means of canals and a horse-power railway. When his daughter-in-law said she was sure a steam railway like that in South Carolina would enable passengers to go from New York to Buffalo in twenty-four hours, her statement won his attention. The estimate was thought to be extravagant, but her father-in-law was led to change his plans, and to persuade others to do the same thing. The building of the Erie Railroad was the result. The bride's prophecy was soon more than justified.

To the engineer of the South Carolina road was due another epoch-making suggestion. The rails of the road were of wood, six by twelve inches. On these was spiked strap iron half an inch thick

by two and a half inches wide. This structure was so weak that the engineer suggested dividing the weight of the engine by constructing it with six and even eight wheels and limiting the load on each wheel to a ton and a half. Immediately Mr. Allen designed a locomotive according to his proposal which had one pair of drivers behind and a four-wheeled truck forward. Charles F. Carter says: "The merits of the four-wheeled truck were so obvious that it was universally adopted. Without it the railroad could not have been developed."

The first locomotive with such a truck succeeded in drawing four cars containing one hundred and seventeen passengers a distance of two and three-fourths miles in eleven minutes.

Sources. CHARLES F. CARTER. When Railroads were New. Henry Holt and Company, New York.

KENNEDY. Wonders and Curiosities of the Railway. Hurst and Co., New York.

Think of a locomotive with wooden spokes and wrought-iron tires, which was so light that four men could start it by pushing. These were features of "Old Ironsides," the mighty engine that was the pride of Philadelphia in 1832, when it made its first trip on the six-mile road to Germantown.

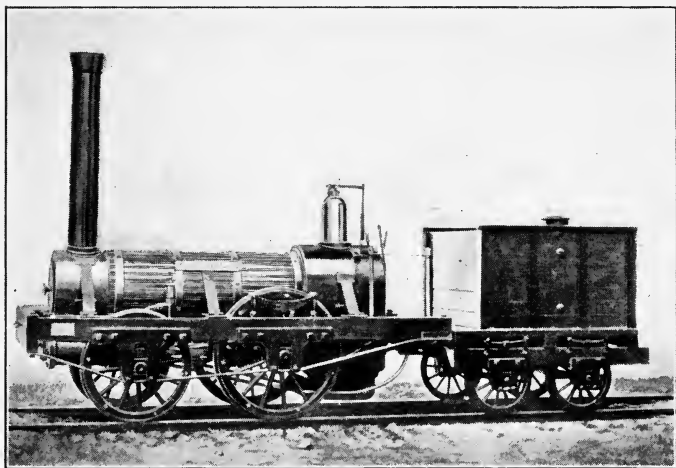
CHAPTER XXXIX

THE BUILDING OF "OLD IRONSIDES"

In 1831 there was much interest in America in the description of the locomotives which had been built in England. Everybody was curious to see one of these strange contrivances. Franklin Peale, the manager of the Philadelphia Museum, thought that if he could exhibit a model, crowds would be attracted. So he asked Matthias Baldwin, a Philadelphia manufacturer, to make a miniature locomotive. After a careful study of published descriptions and sketches of locomotives exhibited in England, Mr. Baldwin completed an engine which was, on April 15, 1831, placed in the Museum on a circular track of pine boards, surfaced with hoop iron.

The officers of the Germantown and Norristown Railway, who operated by horse power a line six miles long, were encouraged by the success of the model to commission the young locomotive builder

to construct a practical engine for the line. The Camden and Amboy Railroad Company had imported a locomotive from England. Mr. Baldwin sought the building where the parts, which had not yet been assembled, were stored. He "carefully observed the various parts of the machine, made a



"OLD IRONSIDES"

few measurements and at last crept under the ponderous boiler. Here he remained in absorbed study for nearly half an hour. As he emerged from his retreat, his face was glowing with enthusiasm and he exclaimed, 'I can make it.'

He succeeded in making a practical locomotive, not entirely according to the measurements and

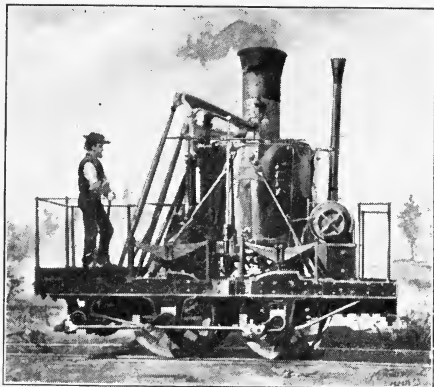
details of the model at Camden, but introducing many improvements.

The work on this memorable pioneer among American locomotives occupied about six months. It was driven forward under a pressure of difficulties which would have disheartened a less determined man. Not the least of these was the lack of any place to do the heavy forging. The only blacksmith shop in the factory was in the cellar, and all the unwieldy work on the engine had to be done in other establishments. The cylinders were bored by a chisel fixed in a block of wood and turned with a crank worked by hand. Mr. Baldwin not only did much of the work with his own hands, but trained the workmen who assisted him, and devised tools at every stage of progress.

At length, in spite of obstacles, "Old Ironsides," as the locomotive came to be called, was completed.

The trial trip was gratifying. A speed of twenty-eight miles an hour was developed. The *Philadelphia Chronicle* of November 24, 1832, in rejoicing over the success of the experiment, made the prophecy that the city's mechanics "will hereafter supply nearly all the public works of this description in the country."

"Old Ironsides" weighed seven tons. The directors thought seriously of rejecting it because it was too heavy, yet, when the time came for the trial trip, the discovery was made that additional weight was needed to keep it on the track.



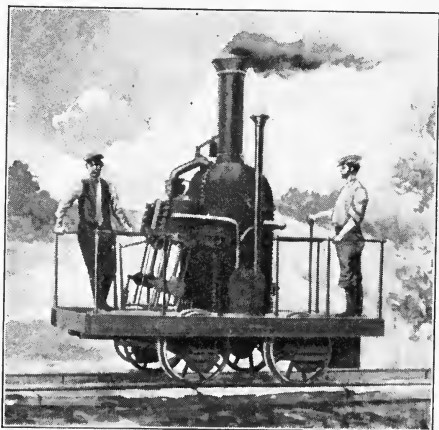
"THE TRAVELER," BALTIMORE AND
OHIO RAILROAD

This was supplied when the builder and two mechanics jumped aboard, after pushing the engine until the wheels were moving rapidly.

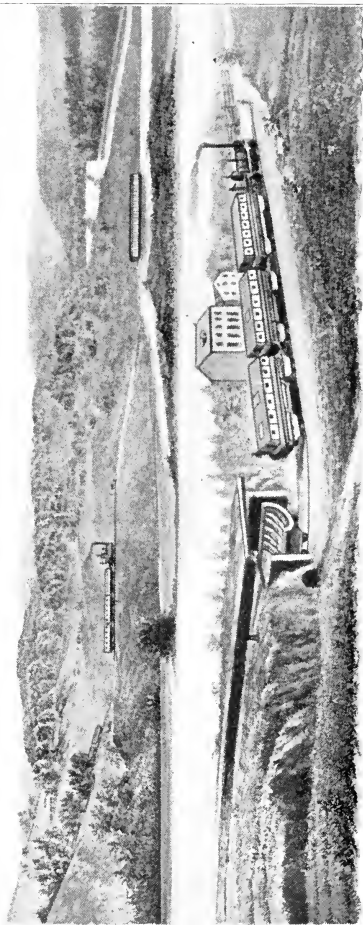
Then came the disconcerting discovery that the boiler was too

small to generate a constant supply of steam. The deficiency was remedied by the three extra men on the engine, who alighted from time to time and pushed until there was enough steam for further unaided progress.

On another occasion it was found that the new locomotive would not run when the rails were wet; the use



"THE YORK," BALTIMORE AND OHIO
RAILROAD, 1831



RELIANCE TRANSPORTATION COMPANY.

(VIA) Pennsylvania Rail Roads and Canals FROM PHILADELPHIA TO PITTSBURG

By means of Transshipping IRON CANAL BOATS, in which Goods are placed at Philadelphia and pass together with the Boats to Pittsburg with Safety, certainty and unprecedented despatch. Emigrants and others travelling with their effects can be accommodated with a cheap & expeditious passage West.

Agents. { JAMES M. DAVIS
J^{no} DOUGHERTY
N^o KEE & LOUDEN
Pittsburg Philadelphia New York

AN EARLY TRANSPORTATION ANNOUNCEMENT

Reproduced by permission of the Philadelphia Commercial Museum

of sand had not yet been thought of as a solution of the difficulty. Consequently the advertisement in Poulson's *American Daily Advertiser*, of November 26, 1832, declared that "the locomotive engine will depart daily when the weather is fair, with a train of passenger cars. On rainy days horses will be attached."

Still another difficulty stood in Mr. Baldwin's way. "No engineers in the country were prepared to run the new machine. There was only one man in the shop besides Mr. Baldwin who understood her construction well enough to make a successful trip with her. He was taken sick at the beginning of her career. Others were tried, and soon lost all patience with the intricate work. Day after day the president of the road, who had insisted from the first that there were radical defects in the machine, threatened to condemn the work, and throw it back on Mr. Baldwin's hands."

Mr. Baldwin's biographer says that one of the few moments of despondency in his whole life was occasioned by the ungracious reception awarded to this machine. In the spring of 1833, when he finally received thirty-five hundred dollars for his work (five hundred dollars less than the contract price), he remarked to one of his apprentices with much decision, "That is our last locomotive."

The depression was only momentary. "Old Ironsides" did its work well. In fact, after many years of hard service, the engine is still in running order. It is kept in the Baldwin Locomotive Works in Philadelphia.

Though Mr. Baldwin was eager for an opportunity to build another locomotive, he did not receive a second order for several years. The new engine was such a great improvement on the first attempt that many other orders followed. A few years later nothing but locomotives was produced in Mr. Baldwin's factory.

Source. WOLCOTT CALKINS. Life of M. W. Baldwin. Privately printed, 1867.

American ingenuity was put to the test in the early years of the railroads. The almost daily call for the solution of difficult problems was answered by the invention of new devices. But always men were equal to the emergency of the moment, and passengers were transported with what seemed marvelous rapidity.

CHAPTER XL

PRIMITIVE RAILROAD CONTRIVANCES

The builders of a few of the earlier railroads made their tracks five feet between the rails; "five-foot gauge roads" they were called. Among these early railroads were the Ohio and Mississippi, and the Louisville and Nashville. The Erie Railroad adopted a six-foot gauge. The engineer of the Erie, noting that the trend of railway building was for a narrow gauge, urged his directors to change their plans. They hesitated because of the expense of a quarter of a million dollars that would be involved. For forty years they were able to conduct the road on the old basis. Then they realized that the continued existence of the road depended on a change, and this was made at an expense of twenty-five million dollars.

For many years the people thought it an advantage to have roads of different gauge. It never

occurred to them that it would be a wonderful help if trains could run through for hundreds of miles over the lines of different roads. Towns and cities which were the terminal points of short roads preferred to have the journey broken by the passengers, so that the hackmen, the restaurants, and the hotels might profit by the delay caused by the transfer of passengers. For this reason

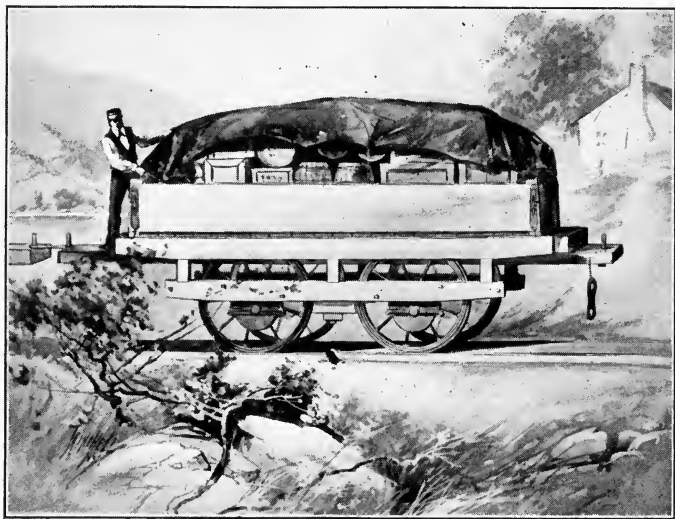


"JOHN BULL" LOCOMOTIVE AND TRAIN, PENNSYLVANIA RAILROAD

union depots were not looked upon with favor: the farther apart depots were, the better. When the first railway entered Chicago, the residents were up in arms against the proposition made by the Michigan Central and the Illinois Central to enter on the same tracks and make use of the same station.

To such an extent was this division of roads carried that when, in 1857, the Ohio and Mississippi Railway opened the route from Cincinnati

to St. Louis, the passes issued to New York guests were indorsed by the officers of forty-two roads. Of course it was not necessary to pass over all these roads, but the privilege was given of using any of them in choosing the route. The guests



FREIGHT CAR, 1832

who used a special train left Baltimore at six o'clock in the morning of June 1, 1857, and arrived in Grafton, two hundred and seventy-nine miles distant, in fifteen hours. The night was spent there, and Parkersburg was reached next day. The party then took steamers twelve miles to Marietta. The next night was spent in Chillicothe,

then the capital of Ohio, and the following night at Cincinnati. Thence the journey to St. Louis was made with comparative ease.

In 1846 the Erie Railroad talked of changing their gauge from six feet to the standard width. The citizens of Erie protested. Finally they tore up portions of seven miles of the Erie's track, and passengers had to be transferred across the gap in the dead of winter. This trip, called "crossing the isthmus," was much dreaded by the passengers, many of whom had feet, hands, and faces frostbitten.

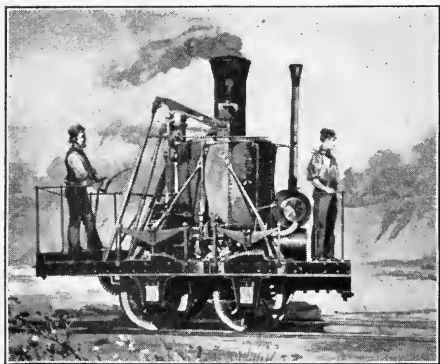


THE FIRST TRAIN FROM BALTIMORE TO ST. LOUIS, BALTIMORE AND OHIO RAILROAD, 1857

It is related as a curiosity of railroad history that the gauge of roads in Ohio was made by law four feet and ten inches because an engine with a whistle had been brought into the state. The gauge of the engine was four feet and ten inches,

and all future track laid was to be of the same width, that similar engines might be used — as if a whistle could not be put on an engine of standard gauge! Of course this law was changed before long.

It is recorded by Carter that "the problem of gauge was not finally settled by the railroads of



"THE ATLANTIC," BALTIMORE AND OHIO
RAILROAD, 1832

the United States until 1886. Between May 22 and June 2 of that year twelve thousand miles of railroad in the South were changed from wide to standard gauge. The Louisville and

Nashville, by using a force of 8763 men, was able to change the gauge of 1806 miles of main line and sidings in a single day."

Other changes in the construction of railway equipment came about much more easily. For instance, the early conductors had no way of communicating with the engineer when the train was in motion. One conductor on the Erie thought out a scheme to obviate the difficulty. He stretched

a stout cord from the rear car to the engine; at the end of the cord was a billet of wood. Instructions were given to the engineer that the jerking of the billet would be a signal to stop the train. The engineer did not fancy the innovation, so he disconnected the cord and refused to replace it till the conductor beat him in a wrestling match. From the billet of wood to the gong at the engineer's elbow was an easy step.

For some time after the introduction of the telegraph, there was no system of giving train orders. The rule was that all eastbound and northbound trains had the right of way. When the favored train was late a westbound or southbound train had to wait. After an hour it was allowed to proceed, but only slowly. A flagman had to walk twenty minutes ahead of such a train. Imagine the result when a train was several hours late.



"THE COSTELL," BALTIMORE AND OHIO
RAILROAD, 1831

When the Chicago and Galena Union Railroad was opened, there was a lookout station in the tower of the Chicago terminus, manned by an employee with a telescope. With this he scanned the prairies, and when he discovered the smoke of an approaching train, he called on the station men to prepare to receive it.

When more modern methods were proposed, the train crews murmured, but they soon realized the advantage of new plans.

Source. CHARLES FREDERICK CARTER. When Railroads were New. Henry Holt and Company, New York.

At first the thought of a railroad from the Mississippi to the Pacific coast seemed an idle dream. Capitalists declared that such a road could never pay expenses. But there were men of vision, determined men; obstacles in their way merely spurred them to new efforts. And the dream came true.

CHAPTER XLI

THE FIRST TRANSCONTINENTAL RAILROAD

When gold was discovered in California hundreds of thousands of men were eager to find their way thither. Some went by sea, around Cape Horn; others went by way of the Isthmus of Panama; while many crossed the plains. Whatever route was chosen, there were dangers to be faced—the storms of a perilous passage, the fever-breeding air of the tropics, or the attacks of prowling bands of Indians.

Railroad men watched the going and coming of men by these three routes, and wished that they might profit by the movement of such a large number of people and their baggage. At first they said it was impossible to build a railroad across the trackless plains of the West. Then they began to wish they could do it. At last they decided to attempt the impossible.

Some people did no more than talk about the great work to be done. While they talked others were studying the country, looking for the best route for the road they believed would some day drive out of business the Pony Express and the freight wagons.

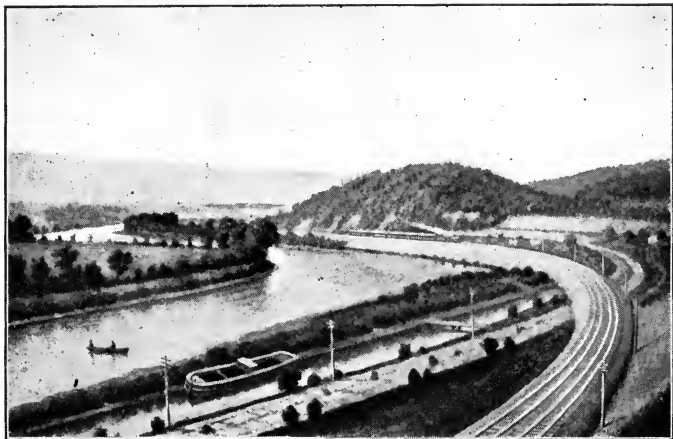
The expense of building such a road would be so great that the help of the United States government was needed. Congress was therefore asked for assistance, and it was decided to offer the road builders sixteen thousand dollars in bonds and ten sections of public land along the line of the road for every mile completed. Later this subsidy was increased to twenty sections per mile, and large amounts in bonds, according to the difficulty of the work done.

Two companies were organized to do the work — the Central Pacific Railway, which began to build eastward from Sacramento, the capital city of California, and the Union Pacific Railway, which built westward from Council Bluffs, Iowa.

Very soon the new project was called the overland route. The name is credited to a San Francisco German who had nothing to do with the railroad. It was his habit to ask every stranger who came to the city during the days of the gold excitement, "Did you come the Horn around, the Isthmus

across, or the land over?" When the railway was begun it was called the land-over route. Very naturally this was soon changed to the overland route.

There were great difficulties in the way of the railway builders. The eastern railways were not



THE EVOLUTION OF TRANSPORTATION IN FOUR STAGES

Juniata River, with rowboat; Pennsylvania State Canal, with barge; Pennsylvania Railroad, original roadbed; Pennsylvania Railroad, modern roadbed

(Reproduced by permission of the Philadelphia Commercial Museum)

completed to Council Bluffs, and all material for the new road had to be taken across country or up the Missouri River. Construction machinery for the western end of the line was shipped round Cape Horn. The first locomotive used for a construction train on the Central Pacific was

hauled across country by horses. There were no trees along many miles of the proposed route; ties, bridge timbers, and material for buildings were carried at great expense for hundreds of miles. It is said that many of the ties had cost as much as \$2.50 each by the time they were put in place.

But the greatest difficulty was caused by the Indians. At first the builders of the Union Pacific had no trouble with the children of the plains, for they made a treaty with them by which the site of the present city of Omaha was secured. But later the Indians opposed the progress of the road almost daily. They turned up when they were least expected. They would either shoot at the workmen from ambush or make an open attack on them. They would pull up the surveyors' stakes and burn them. They delighted to burn station buildings.

Charles Frederick Carter has told of a party of ten railroad men, who, when they were attacked by Indians, unwisely sought shelter in a clump of sagebrush, some five hundred feet distant. The sagebrush afforded no protection to the hunted men, but it provided a cover under which the Indians could creep up on them.

Before night the red men had succeeded in killing some of the party; three only managed to escape in the darkness.

The first attempts made by the Indians to stop trains were unsuccessful, for they did not realize the power of a locomotive. Once sixty braves, thirty on each side of the track, tried to halt a train by stretching a lariat before it. Failure in



DRIVING THE LAST SPIKE. UNION PACIFIC AND CENTRAL PACIFIC RAILROADS, MAY, 1869, PROMONTORY, UTAH

such attempts led them to take more effective measures. Obstructions were placed on the track, trains were wrecked, and many men were killed.

There were so many attacks on trains that soldiers were detailed to guard the tracks. Frequently the cunning savages eluded the guards;

more than once, however, wreckers were surprised in the midst of their fiendish work. One day General G. M. Dodge was with his soldiers at Plum Creek, two hundred miles west of Omaha, when word reached him that a freight train had been captured a few miles east of that station. An engine was coupled to a car in which volunteers had been crowded, and the scene of the attack was reached before the Indians realized their danger. Few of the savages escaped.

Effective help in protecting the road was given by Major Frank J. Nott, who engaged four companies of Pawnee Indians. With the aid of these scouts the plans of the Cheyennes and the Sioux were very often discovered in time to warn the laborers of threatened danger.

Finally General Grant led troops into the disputed country and made peace with the Indians. The treaty guaranteed to the railway builders the right to go on with their work.

The road was begun early in 1863, but it was May 10, 1869, before the last rail was laid and the last spike was driven. At first progress was slow, but later the work was done rapidly. The builders of the Central Pacific naturally wished the meeting point to be as far east as possible, and the builders of the Union Pacific were just as eager that it

should be as far west as possible, for each mile meant a small fortune from the government.

As the two roads came closer together, excitement was great. Newspapers sent their best correspondents to the front, commissioned to prepare picturesque stories of the contest. Every morning readers watched eagerly for the report of the progress made the day before by the rival builders. And when the news was flashed that at last the golden spike had been driven — at Promontory, Utah — there was widespread rejoicing. The gap of 1800 miles had been closed, and at last it was possible to ride by rail from the Atlantic to the Pacific.

Sources. CHARLES FREDERICK CARTER. When Railroads were New. Henry Holt and Company, New York.

TALBOT. The Railroad Conquest of the World. J. B. Lippincott Company, Philadelphia.

After the railroad, the telegraph. The conquest of time and space was not yet complete. Modern business called for yet more speedy means of communication. Once more a man of vision came forward; and once more the man of vision conquered the obstacles in his path.

CHAPTER XLII

THE STORY OF THE TELEGRAPH

In 1832 a young man named Samuel F. B. Morse was returning on the ship Sully from Europe, where he had been studying art, to which he had planned to devote his life. But his thoughts were turned in a different direction by what seemed to be an accident. A chance conversation about the mysteries of electricity led him to wonder if words might not be sent by electricity. Before the voyage was over he had thought out a system of signs.

To the captain of the ship he remarked one day, "Well, if you hear of the telegraph one of these days as the wonder of the world, remember that the discovery was made on board the good ship Sully."

As soon as he landed he began to make experiments. Many times he was forced to turn from these while he earned money for expenses by working as an artist. In 1835 he set up his first rude apparatus.

He cooked, ate, and slept in the room with his model, not only because he was poor, but because he wanted to give every possible moment to his invention.

For years he worked, trying first one plan and then another, and then beginning all over again. Friends told him he would never succeed, but

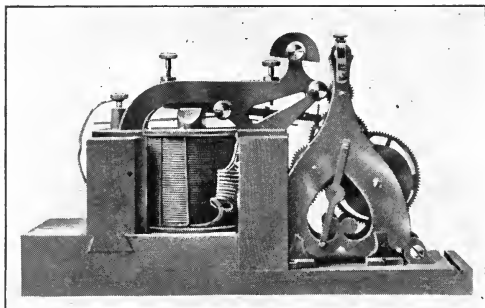
he answered:

"If I can succeed in working a magnet ten miles, I can go round the globe."

One of his students, who witnessed an early experi-

ment with the telegraph, described, in the following words, the primitive appliances used:

I can see now that rude instrument constructed with an old stretching frame, a wooden clock, a home-made battery, and the wire stretched many times round the walls of the studio. With eager interest we gathered about it, as our master explained its operation, while with a clock, click, click, the pencil, by a succession of dots and lines, recorded the message in cipher. The idea we knew, but we had little faith. To us it seemed a dream of enthusiasm. We grieved to see the sketch on the canvas untouched.



RECORDING INSTRUMENT ON WHICH THE FIRST TELEGRAPHIC MESSAGE WAS RECEIVED

When the invention was perfected, it was patented in the United States and in France, although the application for patent had been refused in England on the ground that the invention was not new. Congress was requested to appropriate thirty thousand dollars for the construction of a trial line, but there was vexatious delay. In 1842 Morse wrote:

I have not a cent in the world. I am crushed for want of means. . . . I fear all will fail because I am too poor to risk the trifling expenses which my journey to and residence in Washington will cost me. . . . Nothing but the consciousness that I have an invention which is to mark an era in human civilization, and which is to contribute to the happiness of millions, would have sustained me through so many and such lengthened trials of patience in perfecting it.

In spite of poverty, further experiments were made, one of these resulting in a test of the first submarine telegraph, a line two miles long being laid in New York harbor, another resulting in the knowledge that several currents of electricity could pass on the same wire at the same time.

Finally, on February 27, 1843, by the narrow margin of 89 to 83, the appropriation of thirty thousand dollars for a trial line passed the House of Representatives. But it seemed certain that the Senate would not concur. Two hours before the close of the session the inventor went home disheartened.

He passed a sleepless night, thinking of the thirty-seven and a half cents he would have when he reached New York, a disappointed man. Early in the morning, however, he had a call from Miss Annie Ellsworth, daughter of the Commissioner of Patents, who brought word that the bill was the last passed at the session. The gratified inventor promised her that she should send the first message over the trial line from Baltimore to Washington. When, a year later, the line was ready for operation, she sent the historic message, transmitted by the inventor, "What hath God wrought?" A few days later, when Silas Wright was nominated for Vice President by the Democratic Convention in session at Baltimore, word was telegraphed to Mr. Wright in Washington, who at once wired his answer, declining the nomination. The convention would not believe that a message had so soon been sent and the response correctly received till a delegation was sent all the way to Washington to learn the truth.

The trial line was opened for business in 1845, the price for messages being a cent for four letters. Within six months the Magnetic Telegraph Company constructed a line from Philadelphia to Norristown, a distance of seventeen miles, and in June, 1846, this was continued to Baltimore.

Years passed before capitalists were ready to invest large amounts in new lines. It was difficult to convince them that the invention was practical. Gradually, however, traffic increased. Messages that began with "Dear Sir" and closed with "Yours truly" gave way to more concise communications. By 1852 the telegraph had won its place.

In 1853 there were twenty-five thousand miles of wire in America. To-day there are in operation in the United States more than a million and a half miles of lines.

Sources. JEANS. *Lives of the Electricians.* Whittaker and Co., London.

EDWARD LIND MORSE. *Samuel F. B. Morse, His Letters and Journals.* Houghton Mifflin Company, Boston.

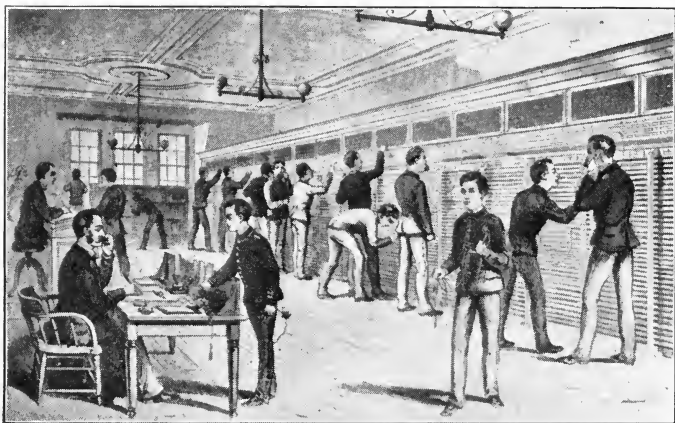
After the telegraph came the telephone. The first telephone company ventured to promise that the voice of a subscriber could be heard a distance of twenty miles. Nearly everybody doubted. Now the voice can be transmitted more than three thousand miles. And the world waits confidently for further triumphs.

CHAPTER XLIII

THE MARVELOUS HISTORY OF THE TELEPHONE

The invention of the telephone was one of the accidents which have enabled keen-witted scientists, while carrying on investigations of an entirely different nature, to give to the world an undreamed-of and epoch-making discovery. Alexander Graham Bell was making experiments, hoping to learn some new facts bearing on the problem how to transmit many messages at the same time over a single wire. One day a wire, snapping in two, sent a sound through another wire which had attached to each end a thin sheet-iron disk a few inches in circumference. Could that sound be repeated? Experiment gave an affirmative answer. Then arose the important query, "Could vocal sounds be transmitted thus?" A parchment diaphragm with a sheet-iron button in the center

was stretched across the mouth of a thin metal cylinder about three inches in diameter. A look inside that metal tube would have shown us features not unknown in to-day's perfected receiver, two magnets with poles wound with wire, and



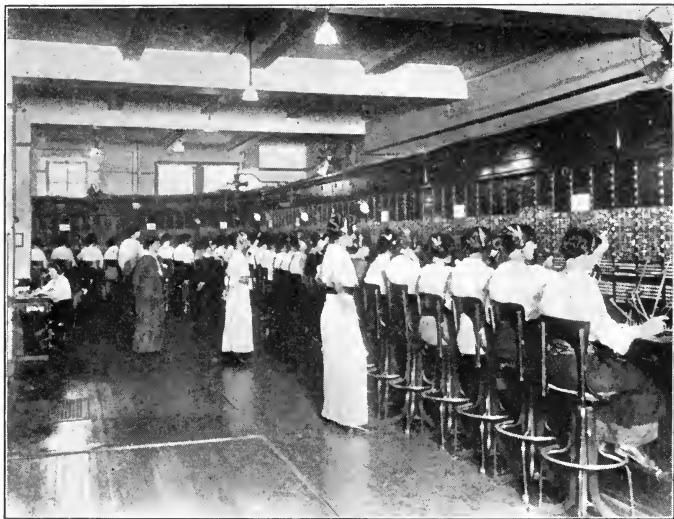
AN EARLY TELEPHONE SWITCHBOARD

The calls were received by the man at the desk in the foreground, who passed them on to the operators

(From the *Scientific American*, 1879)

between the magnets a small strip of soft iron. A similar instrument, with a wire running from its coils, was left in charge of Bell's assistant, while Bell, with the wire connected with his tubular iron-cased telephone, ascended to the attic of his house. The assistant, an intelligent young man, was directed to remain below. Bell, holding

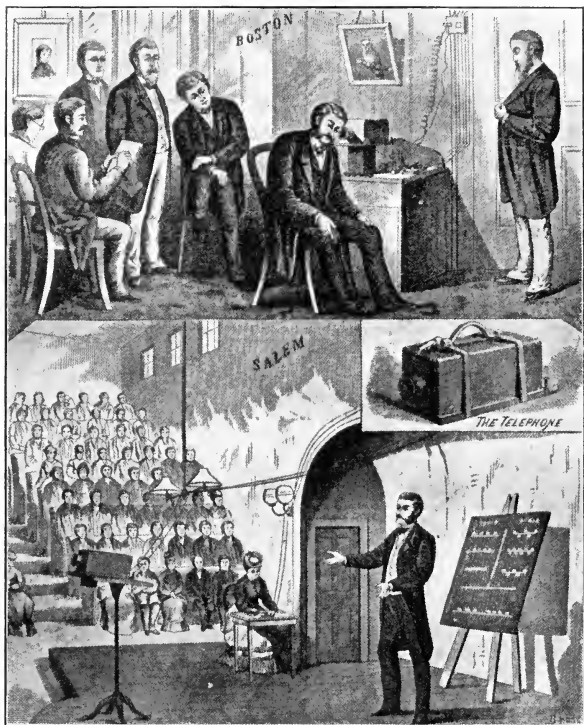
the diaphragm a few inches from his lips, said in ordinary conversational tones, "Can you hear me?" In a moment the assistant came bounding up the stairs. "Mr. Bell!" he called out, "I heard



A MODERN BELL-TELEPHONE SWITCHBOARD

your question plainly." The first experiment in the transmission of articulate speech was a success.

Much further experimentation was necessary before the instrument was ready for demonstration to the Patent Office. Finally, the application was made, and on March 7, 1876, a patent was granted. This was just before the Philadelphia Centennial Exhibition.



SALEM TO BOSTON

The first long-distance use of the telephone

(From the *Scientific American*, March 31, 1877)

How Bell's invention came to be included among the exhibits is another interesting story:

In June, 1876, Bell was engaged to be married to the daughter of Gardiner G. Hubbard, a wealthy Bostonian. At that time Mr. Hubbard was residing temporarily in

Philadelphia, having been appointed one of the Massachusetts commissioners to the Centennial. Miss Hubbard and her mother decided to pay him a visit, and invited Bell to accompany them. He, however, felt obliged to remain in



PHILADELPHIA TO SAN FRANCISCO

A scene in Philadelphia on February 11, 1915, when telephone service was inaugurated between Philadelphia and the Pacific coast. The old Liberty Bell in Independence Hall was rung over the line. In the oval is shown the Liberty Bell, which was struck with three wooden mallets. The tones were transmitted to the transcontinental line by means of the three microphone telephone receivers shown side by side, just beneath the bell

Boston, as he was principal of a school there for deaf mutes, and examination days were approaching. He had escorted the ladies to their train and, standing near by, was waiting for it to steam out on its journey to Philadelphia.

As the train started Miss Hubbard, overcome by disappointment, burst into tears. Without a moment's hesitation Bell leaped back on the train, though he was utterly unprovided for the trip. His trunks were forwarded to him in Philadelphia by his future brother-in-law, William Hubbard. That young gentleman, wise beyond his age, was an enthusiastic believer in the telephone, and took care to put the latest model of it in a corner of the strongest trunk.

By Mr. Gardiner Hubbard's advice, Mr. Bell applied for permission to place his instrument among the electrical exhibits of the Centennial. It was toward the close of a fatiguing day when the judges reached the telephone. Their examination of it was hurried and perfunctory. One of them would not take the trouble to put the receiver to his ear. Another judge dropped a disparaging remark as he took out his note-book. Bell's heart sank. At that moment, Dom Pedro, Emperor of Brazil, entered the room, followed by his suite. Himself a scientist of no mean ability, the emperor had examined with interest and admiration the telephone in Bell's school in Boston. He remembered the young inventor, shook hands with him, and requested another trial of the instrument. Bell went to the other end of the wire and spoke into the transmitter Hamlet's famous soliloquy. Dom Pedro's commendation changed the minds of the judges. The "toy" was allowed to go on exhibition. Doubtless it would amuse visitors. That it was of no practical value was, after all, a minor objection. So reasoned those learned personages. . . . The telephone turned out to be the Centennial's star exhibit, eliciting unmeasured praise not only from distinguished scientists, but from all other visitors capable of understanding the theory of its operation.

In 1877 the telephone was first used, and the first prospectus of the Bell Company was issued. In this the statement was made, "The proprietors are now prepared to furnish telephones for the transmission of articular speech between instruments not more than twenty miles apart." The next year the first long-distance line, from Boston to Salem, sixteen miles, was constructed, and the first telephone exchange was established. In 1880 the second long-distance line was put in operation, between Boston and Lowell. Soon it became possible to talk between stations one hundred miles apart. The line between Boston and New York was not opened until 1887, a little later than the four-hundred-mile circuit connecting New York, Albany, and Buffalo. The first message was sent from New York to Chicago in 1892, though the line was not opened until 1893. In 1900 a Boston merchant could talk to a correspondent in Omaha. The next step was taken when conversation with Denver was possible. In 1915 New York merchants were able to transact business over the telephone with San Francisco customers.

Source. JOHN VAUGHN. The Thirtieth Anniversary of a Great Invention. *Scribner's Magazine*, September, 1906.

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